Dudley (1 p. loose)

BULLETIN

OF

THE JOHNS HOPKINS HOSPITAL.

Vol. VII.—Nos. 68-69.] BALTIMORE, NOVEMBER-DECEMBER, 1896. [Price, 15 Cents.

CONTENTS.

	PAGE.
Alveolar Sarcoma of the Cerebellum. Clinical Report. By Henry M. Thomas, M. D.—Remarks on Anatomical Relations of the Cochlear and Vestibular Nerves. By L. F. Barker, M. B.—Pathological Report. By Simon Flexner, M. D.,	193
John Bell, Surgeon. By Walter B. Platt, M. D.,	198
Concerning Neurological Nomenclature. By Lewellys F. Barker, M B.,	200
A Complete Duplication of the Left Ureter from the Kidney to the Bladder. By Otto Ramsay, M. D.,	201
Notes on Congenital Motor Defects of the Eyeballs (Congenital Paralysis of the Ocular Muscles). By Harry Friedenwald, A. B., M. D.,	202
Malarial Infection as a Source of Error in Surgical Diagnosis. By W. W. Russell, M. D.,	204
The Agglutinative Action of the Blood Serum of Patients Suffering from Typhoid Fever. By E. Bates Block, M. D.,	206
Proceedings of Societies: Hospital Medical Society, Case of Addison's Disease—Death during Treatment with the Suprarenal Extract [Dr. Osler];—Treatment of Ectopic Pregnancy by Vaginal Puncture [Dr. Kelly].	208
Notes on New Books,	211
Books Received,	212
Index to Volume VII,	212

ALVEOLAR SARCOMA OF THE CEREBELLUM.

CLINICAL REPORT.

By Henry M. Thomas, M. D., *Neurologist to the Johns Hopkins Hospital and Clinical Professor of Nervous Diseases, Johns Hopkins University.*

REMARKS ON ANATOMICAL RELATIONS OF THE COCHLEAR AND VESTIBULAR NERVES.

By L. F. Barker, M. B., *Assistant Resident Pathologist, The Johns Hopkins Hospital, and Associate Professor of Anatomy, Johns Hopkins University.*

PATHOLOGICAL REPORT.

By Simon Flexner, M. D., *Resident Pathologist, The Johns Hopkins Hospital, and Associate Professor of Pathology, Johns Hopkins University.*

The patient whose history I wish to bring before you this evening, I saw through the courtesy of Dr. Hiram Woods, who referred her to me on October 17, 1895. Her history in brief is as follows:

Miss Blank, æt. 30, school-teacher. She complained of difficulty in walking, of deafness and difficulty in seeing.

Family history: father died of Bright's disease, one brother has epilepsy, eight brothers and sisters died in infancy.

Personal history: patient is the youngest of 13 children. She was always a delicate child, although she suffered from no especial illness. She played very little with other children, as she easily became tired. During her school life she had several nervous breakdowns, and when 18 was thought by a prominent physician of this city to have delicate lungs. Miss Blank has been engaged in teaching for nine years, but has lost more or less time every year. At different times during this period her voice has failed her for ten days or two weeks, but not, however, during the last three years. She has fainted several times. Three years ago she began to complain of very severe headache, which was brought on by any excitement, especially laughing. The pain was very severe, but lasted only a few moments; if it had lasted longer she thought she would have become unconscious. These attacks of pain recurred nearly every day until August, 1895, when Dr. Woods gave her glasses, from which she derived some relief. Miss Blank stated that she had at times momentary losses of vision, especially of the left eye, but sometimes of both. She thought that this depended upon whether she was worried or excited. For about a year the patient has had some difficulty in walking; at times she staggered and walked as if she were drunk. Last June, if she walked even a block, the exertion caused a severe headache.

At the time of her first visit to me she said that she walked much better than she did six months before. She complained at times of tremor in the legs.

Other than the headache, she has suffered from no pain, but has had a sensation of tingling in the feet and of numbness in her nose and mouth. Since January, 1895, she has become more or less deaf. She has not complained of double vision, but for a week or two previous there has been noticed a slight jerking of the eyeballs.

She complained of some difficulty in passing her urine, but of no lack of control.

Later, at other times, I learned from her mother and sister that there had been a gradual change in her disposition; they had noticed this for more than a year. She had become fretful and unreasonable and hard to get on with.

The examination, at her first visit, gave the following result: patient speaks usually in rather a slow manner, but at times rapidly and loud. The speech is not scanning and her articulation is distinct.

Eyes: there is a well-marked rotary nystagmus, which is increased in looking towards the left. Muscular movements of eyes are normal except that lateral movements seem to tire her; she is unable to hold her eyes either to the right or left for any length of time. Pupils are round and equal, and they react to light and during accommodation. They dilate equally in a dim light. The fields of vision are slightly contracted; colors are seen in the normal order.

Vision practically normal.

Ophthalmoscopic examination shows a well-marked neuro-retinitis in both eyes.

During the examination the patient on several occasions complained that she had become blind; this blindness lasted for one or two moments. She was quite deaf in her left ear, being unable to hear a watch on contact. In the right ear she heard fairly well. Objectively, sensation was undisturbed in face. The facial muscles, those of the tongue and the muscles of mastication all acted normally. Muscular strength of arms was good and there was no tremor. She wrote fairly well, although she says that at times her writing is very poor and that her hands often shake. Deep reflexes are active. In standing there is a tendency to sway, and if the eyes be closed she staggers and if not steadied would fall to the left. Her walk is unsteady and tumbling, somewhat like that of a drunken man.

The muscular strength of legs is good, no noticeable tremor; the deep reflexes are active.

These symptoms suggested strongly the presence of a brain tumor, and that was the diagnosis, although the possibility was entertained that the case might be one of multiple sclerosis combined with hysterical symptoms.

She came to see me, October 18th, complaining of a very severe headache. On October 25th, while walking and feeling as well as usual, she fell on the street. She went home and went to bed, and after that time she never was able to walk at all. When she got up she would sway, and it seemed to be impossible for her either to stand or to walk. Soon after going to bed she complained of very intense headaches, sometimes darting down the back of the neck and behind the ears. These headaches were controlled fairly well by hot applications and a capsule containing 5 grains of phenacetin and ¼ of a grain of codeia, repeated when necessary. The hearing in her right ear gradually became less and less acute, and this loss of hearing was accompanied by very annoying ringing in the ear. In the early part of December she became quite deaf, being unable to hear any sound, either by bone conduction or in any other way. Dr. Woods examined her again and determined that the deafness was due to some disturbance in the nervous mechanism. Her vision seemed to be not quite so acute, although she could still read. At this time Dr. Woods noticed a beginning atrophy of the optic nerves. There was no paralysis of the eye muscles, but it seemed to be very difficult for her to move her eyes up or down, or in or out. She would not look to one side or the other for any length of time. There was no ptosis. The nystagmus varied from day to day. After she became deaf, all communication was carried on by means of writing. As she became blind we had to write in larger and larger characters, and finally vision left her entirely. After this the only communication was by signs; she would ask questions that could be answered by "yes" or "no," and we would press one or the other hand in answer to the questions. Pain became less toward the last. She had two or three attacks of vomiting, and in the last two weeks had several slight convulsions, and on one or two occasions she complained of a sensation as if she were falling out of bed. A little more than two weeks before she died she developed a complete right facial paralysis. She never knew that her face was paralyzed, and I did not make an examination by electricity, but I am confident from the character of the paralysis that it was peripheral. She had a little fever every now and then and her pulse got a little more rapid. She finally died quietly, being perfectly conscious up to within half a minute before her death, when she spoke and tried to give her attendants some directions.

After she went to bed there was no doubt that the patient suffered from a tumor of the brain. Dr. Osler saw her shortly afterward, and he confirmed the diagnosis of brain tumor. There was very little to assist in localization at this time. The patient had a peculiar unsteadiness while standing, suggesting cerebellar trouble, and she had deafness in one ear, the other ear not having become markedly deaf. As that ear began to get deafer and deafer, remembering some of the later investigations as to the association of the posterior pair of the corpora quadrigemina with the central tract from the auditory nerve, and considering also the facts brought out by Nothnagel in his well-known article on diagnosis of tumors of this region, I believed that the growth involved the corpora quadrigemina, and when the patient became quite deaf I felt still more confident that that was the case. When the right facial paralysis developed it was not easy to explain it, but I thought that it might be a pressure symptom.

Ever since Nothnagel in 1889 called attention to the symptoms which tumors of corpora quadrigemina produced, a great deal of interest has centred around such growths. The localizing characteristic of tumors in such a position he stated as being an uncertain swaying gait, especially when it occurs as the first symptom combined with an ophthalmoplegia affecting

both eyes but not quite symmetrically. He says nothing about the loss of hearing in such cases.

In the *Archiv für Psychiatrie* for 1894 there are three articles following each other on tumors of the corpora quadrigemina. It is interesting to note the different points of view taken by these authors. The first article is by Bruns, of Hannover, in which he endeavors to establish the points in diagnosis between tumors of the corpora quadrigemina and those of the cerebellum. He had a case of each in which the symptoms were very similar, in fact they both presented the combination of symptoms which Nothnagel had considered as characteristic of tumors of the corpora quadrigemina.

Bruns concludes that this complex of symptoms is not to be relied upon in making a local diagnosis between the cerebellum and the corpora quadrigemina, but he thinks, however, that the order in which the symptoms occur and their relative prominence may give some indication. Thus, if the ophthalmoplegia is prominent and the first symptom, and the sixth pair of cranial nerves be not involved, and the ataxia develop later, the corpora quadrigemina are implicated; whereas, if the ataxia occurs first and is prominent, and the ophthalmoplegia includes the sixth nerve, the tumor is more probably in the cerebellum. He does not mention loss of hearing as a localizing symptom.

The second article is by Ilberg, in which he reports a case of gumma in the corpora quadrigemina. The case is reported fully, but he makes no general remarks.

The third, and for our purpose the most important article, is by Ernst Weinland; he reports a case and considers the relation of the posteria corpora quadrigemina to disturbances of hearing. Including his case, he was able to collect nineteen cases of tumors of the corpora quadrigemina, in nine of which there were disturbances in hearing, and he thinks that if the examinations had been made more thoroughly there would have been fewer negative cases. Weinland concludes that nerve deafness is an important focal symptom, especially if taken in connection with cerebella ataxia and ophthalmoplegia. When the deafness is unilateral the growth is on the opposite side.

Gowers also states that double nerve deafness should suggest disease of the corpora quadrigemina. In Bruns' case no note is made in regard to the hearing, although it is stated that the left tympanic membrane was defective. The case was of a boy two and a half years old. In Ilberg's case there was marked deafness on the right side, which he explains by slight infiltration of round cells in the right auditory nerve. The tumor, however, was in the left posteria corpora quadrigemina, and so agrees very well with Weinland's proposition. Dr. Barker has kindly consented to give you the result of the latest investigation in regard to the central course of the eighth nerve, and Dr. Flexner will demonstrate the tumor which was found in the case which I have reported.

REMARKS ON THE ANATOMICAL RELATIONS OF THE COCHLEAR AND VESTIBULAR NERVES.

DR. L. F. BARKER.—Our newer knowledge of the anatomy of the rhombencephalon and mesencephalon, and of the origin and course of certain of the nerves connected with these, throws so much light upon the functions of these parts and yields so many data from which conclusions may be safely drawn in clinical cases, that a few remarks concerning certain of the points with particular reference to the cochlear and vestibular nerves, may not be out of place in connection with this interesting report which Dr. Thomas has just made.

The nerve formerly called the eighth cranial, acoustic, or auditory nerve, has, since the investigations of Duval, Bechterew and Forel, been known to consist, in reality, of two nerves which are anatomically separable and functionally, almost, if not entirely, independent, the *Nervus cochleæ* and *Nervus vestibuli*. Both these nerves, as far as we at present know, carry only centripetal impulses, and the bipolar cell-bodies of the neurones of which they are made up are situated entirely (with possibly a few exceptions) outside the main body of the central nervous system, in ganglia which embryologically correspond to the ganglia on the posterior roots of the spinal nerves. The ganglion for the N. cochleæ is the ganglion spirale; that for the N. vestibuli is the ganglion vestibulare.

The Cochlear Nerve.—The dendrites,* or, if preferred, distal axones, of the cell bodies in the ganglion spirale grow out to the organ of Corti and end there free among the cells of that organ, one bundle of them corresponding to the nervus saccularis going to the saccule. The impulses beginning in these processes pass through the cells in the spiral ganglion, are then transmitted by their axones which run in the cochlear nerve to the junction of the medulla with the pons. At the point where the N. cochleæ arrives in the central nervous system, its constituent fibres enter into relation with certain definite masses of grey matter, in which are situated the cell bodies and dendrites of large numbers of sensory neurones of the second order.

Through the work of Flechsig and his pupils, and particularly through the researches of the brilliant young Leipzig investigator, Hans Held, we have, of late, been made tolerably well acquainted with the exact relations of the peripheral neurones of the acoustic path to those situated in the grey matter inside the central nervous system. The two most important groups of the sensory neurones of the second order belonging to the cochlear nerve are (1) the nucleus N. cochlearis dorsalis (nucl. tuberculi acustici) and (2) the nucleus N. cochlearis ventralis. The fibres of the cochlear nerve entering the latter nucleus, in part end there, in part give off collaterals and go on further directly into the trapezoid body, coming into relation with the superior olivary nucleus and the nucleus of the trapezoid body of one or both sides. The fibres may end in these nuclei, or some of them may, as is shown in this diagram, constructed according to Held's description, pass on through the lateral lemniscus to masses of grey matter situated higher up in the central nervous system. Similarly those axones of the cochlear nerve reaching the dorsal nucleus of this nerve, may end in it by free branching among its cells or their dendrites, or may pass on by it

* The fibres of the cochlear and vestibular nerves peripheral to the ganglia, like those of nearly all peripheral sensory neurones, are medullated and histologically indistinguishable from axones, though embryologically and physiologically they may perhaps be looked upon as dendrites.

into the *striæ medullares*, those bundles of medullated fibres which make up the transverse white bands visible on the floor of the fourth ventricle about its middle, spoken of sometimes in the text-books as the *striæ acusticæ*. The constituent fibres of the striæ medullares decussate for the most part in the middle line and dip down into the depth to become involved in the superior olivary complex, the impulses they bring finding their further course forwards, in all probability, along the fibres of the lateral lemniscus.

The axones from the cell bodies situated in the ventral cochlear nucleus go to make up a large part of the trapezoid body (corpus trapezoideum) on each side. Many of the axones of the neurones situated in the dorsal cochlear nucleus also dip down mesial to the corpus restiforme, and come into relation with the superior olivary nucleus and lateral lemniscus of the same or of the opposite side. The fibres of the lateral lemniscus run forward through the pons and reach the level of the inferior colliculi of the corpora quadrigemina, in which many of the fibres terminate by free endings; some of the fibres of the lateral lemniscus run also into the grey matter of the superior colliculi to terminate among the dendrites of the nerve cells situated there. A large number of fibres pass beyond the corpora quadrigemina in a bundle lying along with the brachium quadrigeminum inferius, mesial and ventral to the pulvinar, and dorsally and laterally as regards the red nucleus of the tegmentum; this bundle (the direct acoustic cortical path of Flechsig and Held) becomes joined by a bundle from the medial geniculate body and passes directly through the internal capsule to a definite cortical area in the temporal lobe. This area, which corresponds to Flechsig's *Hörsphäre*, is represented mainly by the gyri temporales transversi, especially by the anterior, and so is largely hidden in the wall of the fossa Sylvii, reaching the external surface of the hemisphere only at that part of the gyrus temporalis superior which is in contact with the gyri transversi, *i. e.* its middle third.

In the lateral lemniscus in addition to the fibres passing from below upward, there are numerous axones which pass from above downward, belonging to neurones in the various grey nodules of its path, so that the grey masses of the corpora quadrigemina, the nucleus of the lateral lemniscus, the superior olivary nuclei of the two sides, the nuclei of the trapezoid bodies together with the primary nuclei of termination of the cochlear nerve, are provided with conducting paths as shown in the diagram, going in both directions, so that the manifold interchange of impulses among these nuclei is fully provided for.

One point of especial interest is the absence of any direct connection of the cochlear nerve with the cerebellum, this nerve being quite different from the vestibular nerve in this respect, as I shall point out in a few moments. The demonstration of the important connection of the auditory path with the inferior colliculi of the corpora quadrigemina, we owe to Flechsig, who further asserts that the fibres of the brachium quad. inferius pass to the auditory centre in the temporal lobe chiefly by way of the medial geniculate body.

The cochlear nerve becomes connected with the superior colliculi of the corpora quadrigemina in at least two ways: (1) through fibres which pass from the lateral lemniscus directly into the superior colliculi, and (2) through fibres which pass from the superior olivary complex through the fasciculus longitudinalis medialis (posterior longitudinal bundle) to the nuclei of the oculomotorius nerve.

The superior olives are connected with the nucleus N. facialis and with the nuclus N. abducentis. An anatomical substratum for the acoustic eye reflex can thus be easily constructed, inasmuch as the superior colliculi of the corpora quadrigemina have to be looked upon as the centres directly in control of the movements of the eye muscles.

The development of the superior olivary nucleus in the animal series appears to stand in a more or less direct relation to the acuteness of the hearing of the animal. It is small in man, and Flechsig in his lectures amusingly remarks, "Wir spitzen auch die Ohren nicht." It is stated that animals which have no cochlea also lack trapezoid body, lateral lemniscus and the inferior colliculi of the corpora quadrigemina.

The Vestibular Nerve.—The distal processes of the neurones, the cell bodies of which are situated in the ganglion vestibulare, pass to the ampullæ of the semicircular canals and to the utricle. The central processes or axones, which are thicker than those of the cochlear nerve, unite to form a thick bundle which runs along with the cochlear nerve, but is, even macroscopically, as a rule, distinguishable from it. On entering the central nervous system the vestibular nerve passes mesially as regards the corpus restiforme, though laterally as regards the tractus spinalis nervi trigemini, and probably comes into relation with the nucleus nervi cochlearis ventralis only through collaterals given off in passing. There are four distinct nuclei of termination (or of reception) of the vestibular nerve, three of them corresponding to the grey matter in the floor of the fourth ventricle known as the *area acustica*. Of these three masses of grey matter the upper one is known as the nucleus N. vestibularis superior (Flechsig, Bechterew), often spoken of in the German text-books as the main nucleus (Hauptkern). The lower nucleus is called the nucleus N. vestibularis medialis (Schwalbe), the "hintere acusticus Kern" of the Germans, while the large-celled nucleus of Deiter's, situated laterally and between the two, is known as the nucleus N. vestibularis lateralis. In addition to these three nuclei of reception a fourth has to be considered, namely the mass of grey matter adjacent to the bundle of fibres of the vestibular nerve known as its descending root (ascending root of Roller); this nucleus is called the nucleus N. vestibularis spinalis.

In these four nuclei are situated the cell bodies and dendrites of sensory neurones of the second order belonging to the vestibular paths. Impulses can arrive in these nuclei besides from the vestibular nerve from numerous other sources; thus for example the nucleus N. vestib. lateralis receives numerous axones from the nucleus fastigii of the other side of the cerebellum. The large axones from a portion of the cells in Deiter's nucleus pass down into the anterior and lateral columns of the spinal cord, so that it is not impossible, as has been suggested, that Deiter's nucleus may represent a way station between the cerebellum and the cord and perhaps, through the anterior horn cells, the muscles.

The axones of the sensory neurones of the second order in

these vestibular nuclei pass in large part to the medial lemniscus of the opposite side and to the cerebellum; some of them enter the fasciculus longitudinalis medialis. Those which go to the cerebellum may be divided, according to Held, into two groups: (*a*) a bundle passing from the nucleus N. vest. superior, ending in the central grey masses of the cerebellum; and (*b*) bundles of fibres passing from the nucleus N. vest. medialis along with the corpus restiforme into the cerebellum. The contrast between the relations of the vestibular nerve and those of the cochlear nerve to the cerebellum is thus seen to be striking. Flechsig believes that the axones from the vestibular nuclei which enter the fasciculis longitudinalis medialis pass forward to come into relation with the eye-muscle nuclei, possibly through the superior colliculi of the corpora quadrigemina. It is his opinion that the impulses passing along these fibres may have to do with the maintenance of the eyes in certain positions. Professor Osler has just referred to the fact that in diseases of the semicircular canals or of the vestibular nerves there may be an accompanying nystagmus, and we now have the promise, at least, of the anatomical explanation of this symptom.

It is generally conceded that the impulses coming from the semicircular canals play an important rôle as regards the position and equilibrium of the head, and the connections of the vestibular nerve with the cerebellum are of especial interest in this regard.

In the case before us a remarkable symptom-complex has been presented. According to Dr. Thomas and Dr. Woods, the patient has suffered from headaches, giddiness, deafness, disturbances of equilibrium, disturbances of vision, interference with the movements of the eye muscles, including nystagmus, vomiting, convulsive seizures, right-sided facial paralysis, with all which there has been complete retention of consciousness. In connection with the more recent knowledge of the structure of the rhombencephalon and mesencephalon, such a group of symptoms is of very great significance, and I shall be extremely interested in learning the results of the pathological examination which Dr. Flexner has made.

Pathological Report by Dr. Flexner.

I was invited by Dr. Thomas and Dr. Woods to perform the autopsy in this case. The subject was a well nourished young woman. The examination was limited to the brain, as consent was not obtained for a complete autopsy.

The soft tissues of the scalp were lax and the skull-cap was of moderate thickness. The dura mater was entirely free from adhesion to the calvarium. The superior longitudinal sinus contained fluid, dark blood. Internally the dura mater adhered to a tumor mass which projected on the left side into the inferior fossa of the skull. The tumor measured 6x4x4 cm. and was attached to the median side of the left lateral cerebellar hemisphere, its growth being directed forwards. The firmest attachment of the tumor was to the dura forming the internal periosteum of the skull in the floor of the inferior fossa, and when separated from this, the latter presented a shaggy and torn appearance.

The tumor had exerted pressure laterally upon the left corpora quadrigemina, the right being but little if at all involved in the compression. There was no growth directly into these parts. The tumor had also flattened the left half of the pons almost to the median line. The left crus cerebri was pressed upon, particularly on its superior surface, and the left superior peduncle of the cerebellum partially flattened. The middle and right lobes of the cerebellum were free from the tumor and the effects of direct pressure.

Upon section of the tumor and left cerebellar hemisphere, the former was seen to extend throughout the entire thickness of the cerebellum and to be continuous both with the cortical and medullary portions. In external appearance the tumor was not so unlike the cerebellum, being distinctly lobulated. It had a strikingly opaque yellow color, and in consistence was firmer than the cerebellum itself, being somewhat moveable independently of the latter.

The central portion which made up the greater part of the tumor was mottled red and grey, while the cortex alone exhibited the yellow color already referred to. Within the tolerably soft tumor, firmer nodules the size each of a bean existed. These were most numerous nearer the cerebellar connection than elsewhere.

The tumor growth extended beneath the dura where it covered the petrous portion of the temporal bone. The bone itself was, however, quite smooth.

The seventh and eighth nerves on the left side were pressed upon and much flattened. Those of the right side appeared small and atrophied. All the ventricles of the brain were dilated and contained an excess of clear fluid.

Under the microscope the tumor varied less in its different parts than might have been supposed from the variations in its gross appearances. The softer parts were œdematous, and the elements composing the tumor more or less widely separated by fluid. The tumor itself was very cellular, the connective tissue framework being rather scantily developed. A few thick bands existed in the denser part of the growth, to which, indeed, these may have owed in part their greater consistency, and within these calcareous concretions of small size were occasionally found. The chief cells of the tumor were of an epithelioid type, the form being for the most part an elongated oval. These cells were gathered into groups, often in whorls, separated by thinner and thicker strands of even more elongated cells with nuclei of the same general character as those in the enveloped cells. The amount of intercellular substance between the enveloping cells might be little or much, and in any case it was homogeneous and not fibrillated; or it might be absent altogether. Thus it happened that quite distinct alveoli came to be formed, and rarely the cells occupying an alveolus were flat and scale-like and closely approximated. Smaller cells of the lymphoid type also existed, forming independent round or irregular groups, but more often giving rise in the neighborhood of vessels to elongated masses. Blood-vessels were in certain situations quite abundant, but they were not distributed with any regularity through the tissue. In some places the tumor was not remarkably vascular. It should be said that painstaking search for processes such as are found associated with the cells in gliomata failed to reveal any such. From this description the diagnosis of alveolar sarcoma seems justified. The tumor is believed to have

sprung from the cerebellum, although no other evidence for this belief than its position and attachments are at hand.

Dr. Thomas.—It is seen from the report of autopsy that the tumor involves the left lobe of the cerebellum, pressing upon the corpora quadrigemina, but not involving them by actual ingrowth, and that the auditory nerve of that side is in very close connection with it. This relation may account for the early deafness in the left ear, although it is difficult to understand how the facial nerve on that side could have escaped. We are forced to believe, unless a careful microscopical examination shows some central changes, that the deafness in the right ear and the paralysis of the right side of the face were distant pressure symptoms, a very unsatisfactory explanation.

The diagnosis of tumor of the corpora quadrigemina was based on the combination of double nerve deafness, the cerebella ataxia, and the weakness of the eye muscles, although there was no actual paralysis. The absence of ophthalmoplegia was explained by the supposition that the tumor was in the posterior rather than the anterior corpora quadrigemina. I believe that under similar circumstances the same diagnosis would be justified, although the possibility which is ever present when a local diagnosis has been made, of the disease being somewhere else, would be still more prominent.

JOHN BELL, SURGEON.

By Walter B. Platt, M. D.

(*Read before the Johns Hopkins Hospital Historical Club, May* 11, 1896.)

One of the best men of his profession of the latter part of the eighteenth and the early part of this century was the man who signed himself John Bell, Surgeon. He was an eminent teacher without a university, a surgeon for years without a hospital, and a teacher with enthusiastic pupils in a school made mostly by his own efforts.

Had he followed the example of many notable Scotch surgeons of to-day and gone to London, where he had plenty of admirers, he would have received more honor than others of his townsmen who remained in Edinburgh and succeeded in gaining the attention of those who, with singular blindness, passed him by.

Bell, the second son of the Rev. William Bell, was born in Edinburgh on the 12th of May, 1763, and received his education principally at the High School of his native city. His early liking for medical studies was very evident, and as soon as possible he entered as a pupil of Alexander Wood, a well-known surgeon.

He became a Fellow of the Royal College of Surgeons of Edinburgh, and in 1780 was Lecturer on Anatomy and Surgery. He then made a large number of dissections and founded a museum, an "extra-university enterprise." His brilliant success was a direct result of his zeal and activity as a teacher. Charles Bell, his younger brother, assisted him in his work for several years, and later edited his great work on Surgery. Bell's "Anatomy of the Human Body," a portion of which I have the pleasure of showing you to-night, passed through many editions and was translated into German. A rapid improvement in the surgery of arteries followed his work on anatomy, in which these were particularly described.

In his "Nature of Wounds" he gave a clear exposition of the advantages of securing first intention union, something just then coming to be regarded as desirable, as distinguished from the recent practice of dilating and separating the edges of a wound by means of tents and all manner of substances to prevent rapid healing.

For twenty years he was the leading surgeon of Edinburgh, during which time he had a long controversy with Dr. Jas. Gregory, the Professor of Medicine in the university of that city. The result was most unfortunate for Bell. Although he only replied when attacked, his defense was so violent as to cause a reaction against himself. It ended in the limitation of the number of attending surgeons to the Infirmary to six, of whom Bell was *not* one. Gregory at this time was severely censured by the College of Physicians for violation of the truth.

In his "Letters to the Medical Profession" Bell makes a long and labored criticism of Gregory and others of his opponents (as was the fashion of that day, and until within thirty years not uncommon in our own country), in which italics and large capitals were freely employed. If the quotations from Jas. Gregory are correct, they certainly show him up in a bad light, as a disagreeable and undesirable person. As a specimen, upon his appointment to the position of Censor to the College of Physicians, Gregory says: "Since they will have me for a censor, they shall have me for a censor; I can assure them with perfect truth I would rather act as a whipper-in to a herd of swine pursued by a legion of devils, than a Censor to a College of Physicians, or to any society of men who needed such censorious admonition as at present it is my duty to give them."

In another part of the book Bell dwells upon the importance of much dissection in order to properly qualify a surgeon, and scoffs at those who try to make a surgeon by experience alone, and without a previous thorough anatomical training.

"To ally Anatomy more closely with Surgery, to connect the art more intimately with the science from which it flows, seemed to me a task as yet imperfectly accomplished, and yet of the very highest importance. The study of Pathology contributes not only to make the surgeon intrepid, bold and skilful, but to keep alive those sentiments which give a peculiar value to his best and most sacred duties. The continual reference of every symptom and suffering to certain physical changes going on within the body, begets a lively sensibility for the feelings of the patient while he lives, or to his fate while his life is in danger."

He speaks of the horrors of a surgical operation by an unskilful surgeon and with poor assistants, a situation much worse than to-day, when an anæsthetic allows more time for clumsy helpers to do their part. Some members of the profession seem to have understood the art of advertising almost as well as men of our time who cannot wait for the well-earned reputation of good work. Bell scores a brother surgeon, Benjamin Bell, who for some months advertised a mild cure for stricture as opposed to the use of caustic. This was well contrived by writing a book on the subject and advertising the work in the public prints, a thin device to secure private practice often used in our day.

John Bell speaks in terms of well deserved contempt of the effort to teach surgery or anatomy to a class most of whom are one hundred feet away from the demonstrator, instead of compelling each one to work out his own salvation by careful work on the cadaver. Surgical anatomy as we understand it, was not systematically taught before the time of Bell.

While Bell spent some of his valuable time in personal attacks on such members of his profession as he deemed worthy of satire and exposure, there is little doubt that in the main it was richly deserved. Those were pre-eminently days of personality and vituperation, and Bell in his philippic against Gregory says, "I neither mistook my bird nor missed my shot." The latter, as we have seen, tried (and with success) to exclude Bell, the leading surgeon of Edinburgh, from the Infirmary.

In at least one way his exclusion from the Infirmary proved a blessing to the profession, for Bell soon set about writing his "Principles of Surgery," in three volumes, a most remarkable and interesting work. Men of that day did not disdain to say a good thing now and then in the course of their strictly surgical teaching. His work is a monument of learning, representing pretty well the best surgical ideas up to his time, as well as his own, original and acquired. In editing a subsequent edition of the work, his brother Charles speaks of the correctness and importance of the principles taught by his brother, as well as of his admirable qualifications for teaching. To give an extract:

"Experience is observation founded upon previous knowledge . . . The present mode of teaching anatomy tends little to excite this spirit of observation. He will have little sympathy with the pains or sufferings of his patient who does not reason on what is going on within the body, who does not watch incessantly the symptoms indicating change, whether toward health or disease; and feel more fears and anxieties than his patient can imagine, and see dangers of which his friends cannot be conscious. Such reasoning repeated from day to day is truly experience."

David Williams, in a memorial to the College of Surgeons against the Managers of the Edinburgh Infirmary, referring to the proposed limitations of the number of attending surgeons to six, whereas there were formerly a much larger number, says, "A surgical case is very different from a medical one. Surgery depends more upon particular facts, and medicine more upon general reasonings. Any surgeon therefore can observe a matter of fact that falls under his notice, but it is not every physician who is capable of entering into a long process of reasoning on a difficult case." Again he makes an observation which will apply very well to a number of hospitals in our own day: "Upon a deliberate consideration of this case it is apprehended that there is another party whose interests have been entirely overlooked, that is the public."

This appears to have been the case in the exclusion of Bell from the Infirmary, for, hospital or no hospital, he enjoyed the confidence of the public to the extent that he was the leading surgeon of Edinburgh for twenty years.

In the preliminary discourse to his Principles of Surgery, in speaking of the education and duties of a surgeon, Bell writes: "Such is the natural horror at blood, and the vacillations and difficulties of the surgeon himself when anything so daring as a dangerous operation is to be done; and such are the increasing and anxious inquiries of friends, that operations, though the least part of our profession, strike a deeper interest into the public mind than the daily cures we perform. Operations usurp an importance in surgical education which they should not naturally have. Operations have come at last to represent as it were the whole science, and a surgeon, far from being valued according to his sense, abilities and general knowledge, is esteemed excellent only in proportion as he operates with skill." He concludes: "Respect yourselves, deserve well of your country, and all those who are around you will be sensible that you are deserving; refrain from complaints, which will but harden your enemies and disgust your friends."

Like many another good man, Bell was one of those who could give excellent advice to others which he was unable to apply to his own case.

Bell's Surgery contains a vast amount of interesting information to any student of the history of medicine. He refers to the abuse of tents to prevent primary union of wounds, and we may as well notice that the old surgeons, without any knowledge of the true principles of aseptic or antiseptic surgery, *did* look upon primary union as a thing to be desired, and achieved it in a certain proportion of cases. He refers again to the sympathetic cure of wounds, so-called, by practicing upon a bloody towel, a stain, or upon a weapon. All this might of course be done at a distance as well as on the spot by the charlatan who advocated this sort of thing. He says further that one of the chief of medical schisms arose about the time of Paracelsus upon the question, "Whether it was necessary that the moss should grow absolutely in the skull of a thief who had hung on the gallows, and whether the ointment while compounding was to be stirred with a murderer's knife."

A more practical matter from our standpoint was the treatment of apoplectic attacks, which was apparently considered to be the province of a surgeon. After reviewing the condition in which we find the patient, in a most graphic way, he says: "Raise your patient into a sitting posture; have him supported behind; let his legs hang over the side of the bed; bleed from a large orifice in one or both jugulars; expose him, especially if the weather be sultry, to a stream of cool air by opening the windows and the door of the chamber; sprinkle his face with cold water." "Bleed him while his pulse rises or until his face change, and if the stertorous breathing

relax, if the pulse become frequent and soft, if he swallow more freely, if his groans seem less oppressed, if he raises his eyelids at last and appears to know his friends, if he begins to shudder as if feeling the cold, and to move his limbs, you are going to save your patient."

In a historical sketch by Strothers, upon the Edinburgh Anatomical School, we are told, referring to Bell, "Among numerous students was a young man, remarkable for his keen eye, intelligent countenance, and small stature. It struck this youth that although the professor then in the chair was an excellent teacher of anatomy, the application of anatomy to surgery was quite neglected."

He seems never to have recovered from his exclusion from the university, and although his private practice was extensive it did not atone for the loss of a public position. "Bell was not only the reformer of surgery in Edinburgh, but the father of it." "A bold and dexterous operator, he combined all the qualities of a great surgeon to an extraordinary degree." "He was master alike of the head, hand, tongue and pen." That he was a grateful and warm-hearted man, the dedication of his "Anatomy of the Human Body" to Rutherford witnesses. In this he says:

"To Daniel Rutherford, Professor of Medicine and Physician to the Royal Infirmary, Edinburgh.

Sir,—In presenting this book of plates to one who is so well able as you are to judge of their defects, I ought to add some value to the offering by declaring the motives of it. It is a mark of gratitude for the friendly care with which, in company with my worthy master, you watched over me during a long and dangerous illness. Perhaps there can be no higher compliment betwixt medical men than this confidence in time of sickness, and surely if I may judge by my own feelings, nothing can be more grateful than the remembrance of kindnesses bestowed at such a time —May your skill be long useful to your fellow-citizens, and may it be always valued as I value it. I am, Sir, with respect,

Your friend and humble servant,

JOHN BELL."

He married later in life than most of our profession, since he was no less than forty-two years of age when he wedded the daughter of a retired physician.

In 1816 he was thrown from his horse, and in consequence of disability he went to Italy the year following, where he engaged in the study of art in its various aspects. The results appeared in his "Observations on Italy," edited by his friend, Bishop Standford. Mrs. Bell, in writing a preface to this work after her husband's death, says: "With warm affection and sanguine temper he looked forward with hope that his labor and reputation would one day bring independence, and meanwhile he would give his last guinea to any one who required it. Judging others by himself, he was too confiding in friendship, too careless in matters of business; consequently in the one he was exposed to disappointment, and from the other involved in difficulties and embarrassments which tinged the color of his whole life." John Bell died of dropsy, in Rome, April 15, 1820.

In regard to the impression he made upon those about him, one of his biographers says: "He was impetuous and energetic, and in controversial writings almost violent. He was one of those men who, without achieving great success, leave behind them an abiding impression, and stamp their character in the institutions and thought of the age in which they live. In person he was below the middle height, of good figure, active looking, and dressed with excellent taste. Keen and penetrating eyes gave effectiveness to his regular features, so that his expression was of a highly intellectual type."

CONCERNING NEUROLOGICAL NOMENCLATURE.

BY LEWELLYS F. BARKER, M. B., *Associate Professor of Anatomy; Assistant Resident Pathologist.*

The nervous system, as is well known, was formerly described as being made up of nerve cells and nerve fibres. Each peripheral nerve fibre of the cerebro-spinal system consists of an axis cylinder around which is a fatty sheath, and outside this again is another sheath, the neurilemma. Bundles made up of great numbers of these nerve fibres held together by firm fibrous tissue run through the tissues of the body and are known as "nerves." The term "nerve," as originally employed, had reference to the firm, sinewy or tendinous character (Latin *nervus*, Greek νευρον) of these bundles, a quality dependent in reality on the fibrous connective tissue of the bundle rather than upon the really functioning irritable structures within it. The terms "nerve" and "nervous" are now connected in thought rather with the functionally irritable structures.

The relations of the nerve cells to the nerve fibres remained for a long time unknown. The nerve cells occurring in groups within the nerve centres were known to possess branched processes, the so-called protoplasmic processes or *dendrites*. Later on it was shown that the axis cylinder of every nerve fibre is always a process—an integral part, therefore—of a nerve cell, though this process is very different in form and probably in function from the other processes (dendrites). It has then been demonstrated that the whole nervous system is made up of units, each unit consisting as a rule of a nucleated cell body with its dendrites, together with one or more axis cylinder processes with side-branches (side-fibrils, and collaterals or paraxones) and end-ramifications. Each of these units inclusive of all its processes is in reality a single cell of the body, quite analogous to a single liver cell, or a single muscle cell, and a very suitable name for the unit would be "nerve-cell" were it not for the fact that this term has been used for decades to indicate only a portion of the unit as mentioned above (viz. all except the axis cylinder) and in many minds would call forth this erroneous idea. It remained, therefore, to find a satisfactory name for the whole nerve unit. Waldeyer

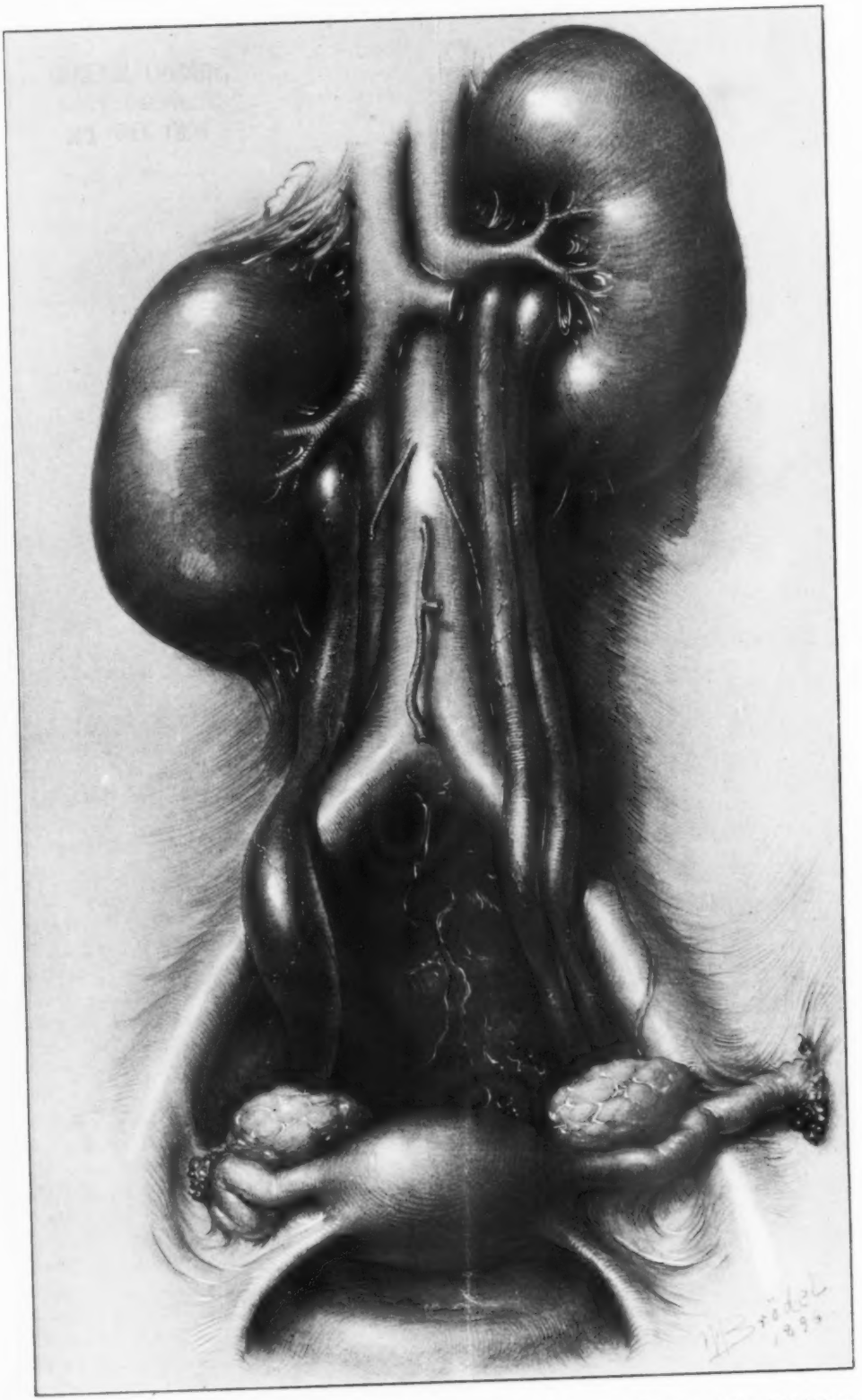

Fig. 1.—Double ureter on the left side with double renal pelvis. Abnormal position of the right kidney. Hydro-ureter on both sides.

The Friedenwald Co., Engravers and Printers.

of Berlin suggested that from the Greek ὁ νευρών a new German word be coined, *der Neurôn* (pl. *die Neuronen*), and the introduction of this term has been of significant influence in making the ideas involved in what is now generally called the neurone-conception of the nervous system generally known and appreciated. The term has been in Germany almost universally adopted by morphologists, histologists, physiologists and clinicians notwithstanding the objection offered by v. Kölliker that the term ὁ νευρών in reality indicates "einen Sammelpunkt vieler Neuren oder Nerven." He has suggested that the word *Neurodendren* or *Neurodendridien* be used instead. Van Gehuchten has adopted Waldeyer's word, spelling it in French "*le neurone*," and French writers generally employ it. The leading investigators in Spain and Italy have also adopted the same term; so that even if it were etymologically somewhat objectionable, its use has become so general and cosmopolitan that it seems as though we must also employ it in English. Baker's suggestion that we use the term *neure* is a very good one, but the term of Waldeyer has already become too prevalent to be easily supplanted. The question arises, how is Waldeyer's term to be anglicized? Would it be justifiable to bring it into English through the French and to spell it *neurone*, pronounced neurône, or could it be brought into English directly from the Greek and be so spelled and pronounced? It is especially desirable that this spelling and pronunciation be permissible, owing to the fact that a few writers, among others Schaefer and Donaldson, have employed another word, *neuron* (Gk. το νευρον), to mean the axis cylinder process, a nomenclature which is obviously etymologically faulty and which in my opinion is not likely to become generally popular owing (1) to the existence of a better term for the axis cylinder, viz. axone or neuraxone (Greek ἀξών), already current; and (2) to the likelihood of its confusion with the word introduced by Waldeyer for the whole nerve unit, a word now in almost universal use in other countries.

For the sake of avoidance of confusion in the bibliography a speedy agreement concerning the nomenclature is certainly highly desirable. I have submitted the question, very much as outlined above, to Prof. B. L. Gildersleeve of the Johns Hopkins University, with a request for aid, which has been courteously and promptly given. Prof. Gildersleeve writes me that v. Kölliker's objection to νευρών will not hold, for it would apply equally well to παρθενών, which means "the house of the virgin." He adds, "While the spelling *neurone* is not pleasing, still for that matter the spellings *anode* and *cathode* are just as objectionable, since after the analogy of *method* they should be spelled *anod* and *cathod*, and under the circumstances *neurone* seems to be inevitable." It is a matter of congratulation, I think, that neurologists may thus use the term in English with the sanction of a recognized authority in Greek. If medical and scientific writers will co-operate, we may finally hope to bring about the establishment and maintenance of a uniform international nomenclature.

A COMPLETE DUPLICATION OF THE LEFT URETER FROM THE KIDNEY TO THE BLADDER.

BY OTTO RAMSAY, M. D., *Baltimore, Md.*

The following case, coming to the autopsy table from the gynecological ward of the Johns Hopkins Hospital, is of interest from a rare abnormality of the ureter which it illustrates, being a duplication of the left ureter throughout its entire extent, beginning at the kidney with a double pelvis, and ending in separate ureteral orifices at the bladder.

The patient from whom the specimens were obtained was a woman of 45 years of age. She had been admitted to the gynecological ward suffering with a carcinoma of the cervix uteri, which on examination was found too far advanced for operative help. Death followed soon after her admission, the result of exhaustion. There were no signs of uræmia, the patient passing a moderate amount of urine daily. As no bladder examination had been made before death, there was no suspicion of the condition found at the autopsy.

I cite here only the anatomical diagnosis, and the condition of the kidneys, ureters, bladder and urethra, the remaining portions of the autopsy report being of no interest to us in this connection.

Autopsy No. 813, June 22, 1896.

Anatomical Diagnosis.—Sloughing carcinoma of the uterus, perforation into the rectum. Involvement of the ureters. Hydroureter and slight hydronephrosis. Double ureter on the left side, with double kidney pelvis and two bladder orifices. Extension of the tumor to the surrounding tissues and infection of the lymphatic glands. Chronic nephritis. Subacute pericarditis. Obliterating pleurisy. Peritoneal cyst attached to the appendix vermiformis.

Condition of the Urinary Organs.—Both kidneys about the same in general appearance; the left is somewhat larger than the right, with its upper extremity 5 cm. above the upper extremity of the right kidney. The ureters are dilated and contain quite clear fluid.

The right ureter is about the size of the index finger; the pelvis of the corresponding kidney is dilated, the calices being deepened, but relatively these parts are dilated less than the ureter.

The whole kidney is very pale, the cortex being uniform in tint; the glomeruli pale, though visible. The pyramids are not quite so pale as the cortex.

On the left side the ureter is double. Beginning at the hilum of the kidney by separate pelves, between which there is no communication, the two ureters from here run side by side, bound closely together, but entirely separate, to the bladder, where they enter at distinct orifices 1.5 cm. apart. They are dilated throughout their whole extent from the point where they are involved in the growth at the cervix uteri to the kidney. Each is about the size of the little finger, and

contains quite clear contents. They show marked contraction where they pass through the growth extending from the cervix, but a probe can only with some difficulty be forced into each ureter from its appropriate orifice.

The mucous membrane of the bladder is beset with fine hemorrhagic points. At the orifice of the single right ureter there is a teat-like projection into the cavity of the bladder, at the summit of which the ureteral orifice is found. This projecting portion of the mucous membrane is firm in consistence and is probably due to a direct extension of the new growth. The bladder is moderately distended with turbid urine. The urethra is congested, but shows no sign of the extension of the new growth,

The accompanying drawings illustrate well the condition. Fig. 1 shows the two dilated ureters on the left side, from their origin, to the spot where they are compressed by the new growth, also the markedly dilated right ureter. Fig. 2 shows the bladder with the two ureteral orifices and the teat-like projection at the site of the right ureteral orifice.

The condition of complete reduplication has been described by Weigert, Debierre and others, but I found no reference similar to the condition here pictured. In a case reported by Heller (Deutsch. Arch. für klin. Med., Bd. V, Heft 2) there was a hydroureter and hydronephrosis of one portion of a double ureter and double pelvis, the dilated ureter ending as a closed sac in the wall of the bladder; a similar case is also reported by Weigert (Virch. Arch. No. 70, p. 490).

NOTES ON CONGENITAL MOTOR DEFECTS OF THE EYEBALLS (CONGENITAL PARALYSIS OF THE OCULAR MUSCLES).

REPORT OF A CASE OF BILATERAL PARALYSIS OF THE EXTERNAL AND PARESIS OF THE INTERNAL RECTI MUSCLES.*

By Harry Friedenwald, A. B., M. D.

Paralysis of the ocular muscles is a subject of great interest to the neurologist and to the ophthalmologist. The slightest degrees of impairment make themselves very apparent and are readily measured. Affections of the different nerves are separated without difficulty, and the situation of the lesion can often be deduced with exceeding nicety.

For these reasons the paralyses of the ocular muscles have been carefully studied, and various classes of central and peripheral origin have been separated. There is a class of cases which is congenital. Those that have been published were collected recently by Kunn (Deutschmann's Beitraege zur Augenheilkunde, Vol. II, p. 711), and number about seventy-five. They include single paralyses and combined paralyses of all the extrinsic ocular muscles, monolateral and bilateral.

There has been some discussion as to whether these congenital cases form a separate type or belong to the same class as those occurring in youthful persons and young adults, and recognized as acute nuclear paralysis, or what Wernicke terms polio-encephalitis superior. Moebius has taken the latter view (Ueber infantilen Kernschwund; Muench. Med. Wochenschrift, Vol. XXXIX, 1892, No. 2–4).

Kunn, on the other hand, seeks to establish these cases as a separate class, due not to atrophy of the nuclei, but to the non-development or defective development in the embryo of one or more parts of the motor chain from the cortical centres to the muscles themselves. It was with a view of bringing this question before you that I present a case and these notes to you.

Among the cases which I had the pleasure of demonstrating here† last winter there was one of congenital paralysis of the right external rectus muscle, with some impairment of adduction of the same eye. The usual result of acquired paralysis, namely contracture of the antagonist, was missing. There was also slight enophthalmus.

At the same time I reported two cases very similar to the above. In both of these there was absolute inability to move the left eye outwards beyond the median line. In one there was likewise enophthalmus, with some interference with adduction. In neither of these cases was there contracture of the antagonist muscle. In none of the three cases was there diplopia. In direct vision, all had binocular vision. All of these cases showed the peculiar movements of the eyelids associated with lateral movements of the eyeballs, which was the subject of the paper.

Monocular paralysis of the external recti is the most common form of congenital paralysis.

At the same time I reported the case of bilateral paralysis of the external recti. I have since then been able to study this case much more thoroughly, and shall present him to you.

H. F., aged 19, complained that he was forced to move his head from side to side in reading, and that his left eye was weak. There was no asthenopia, but his eyes became red after reading. At the first examination I could not make out any lateral movement in either eye, a request to look toward either side being followed by a corresponding movement of the head, the eyes remaining stationary. It was for this reason that I was induced to regard the case as one of paralysis of both abduction and adduction of both eyes.

The patient has been examined a number of times since then. Under atropia, a slight degree of hypermetropic astigmatism was found in the R. E. (0.5 Dc Ax 70°). The left eye is amblyopic, V 6/60, which cannot be improved with glasses. There is no movement outwards in either eye. But after numerous trials the right eye tested at the perimeter could with difficulty be adducted to about 45°, and monocularly even to 60°, but it could be held there only a few moments. At the same time the right palpebral fissure became smaller, the left larger than usual. As to the left eye, repeated and very great efforts did not succeed in adduction ex-

*Read before the Johns Hopkins Hospital Medical Society, November 2, 1896.

†See *Johns Hopkins Hospital Bulletin*, No. 64, July, 1896.

Fig. 2.— Two perfect ureteral orifices on the left side. Teat-like mass on the right side with the right ureteral orifice at its summit.

The Friedenwald Co., Engravers and Printers.

ceeding 30° or 35°, and then only for an instant. This likewise resulted in associated movements just the contrary of those described above.

Tested with a red glass before the right eye, there was homonymous diplopia toward either side, but not in the primary position.

With the phorometer there were about 4° of left hyperphoria and 4° of esophoria. His eyes do not appear to be directed perfectly parallel in distant vision.

Examinations of binocular vision resulted in his being able to fuse simple pictures in the stereoscope after a few minutes trial. This, however, is known to be an unsatisfactory test. Tested according to the Lippincott method, binocular vision, or more definitely binocular perspective vision, was shown to be present when the patient looked directly forwards, but not when the object was held on either side. Tested by the most delicate method—Herring's Fallversuch—the patient answered correctly only in about half the trials. This appears to be attributable to the very defective vision of the left eye.

We should therefore conclude that while binocular vision is not perfect, it is present to a certain degree, and probably as great as the relative defect of vision in the left eye would permit of.

The convergence of the eyes has been examined a number of times and is very defective. But the patient appears to converge to within the reading distance. The convergence is mainly due to contraction of the right internal rectus.

Other defects were sought for. Facial paralysis, which existed in some of the reported cases, is not present. There is no mental defect, and the only other peculiarity is great hesitancy in speech. The affection is undoubtedly congenital and was observed very early. (Demonstration.)

In this case let me call your attention to the defective action of both internal recti muscles. This has been commonly observed in cases of bilateral paralysis of the external recti. It is just the contrary of what is expected, namely, contracture. What is still more important is that in many of these cases convergent action of the interni was perfect even though the lateral action was entirely wanting or very defective and difficult.

This is, as Kunn has pointed out, a mark of difference separating cases of congenital paralysis from all acquired cases.

There has been much difference of opinion concerning the significance of the defective action of the interni in these cases of complete paralysis of both externi. Graefe thought that the initiative of lateral movement lay in the externi, and these being paralyzed, the interni failed to act. Kunn and Simon (*Entstehung der Koordinirten Augenbewegungen*, Zeitschr. f. Psychologie, Band XII, p. 102) regard the inability of the interni to perform lateral movements as the result of disuse, no attempts being made by the patient to look toward either side on account of the diplopia that would ensue.

Inasmuch as there was some defect in adduction in two of my three monocular cases, I am inclined to regard this, at times certainly, as a *partial congenital paralysis* of these muscles. When convergence is good, and lateral movement is very defective, we may accept Kunn's explanation. This has given rise to some difficulty in explaining why the internus of the fellow eye is not affected in unilateral paralysis of the abducens, for here, too, movements toward the side of the paralyzed muscle produce diplopia. The difference appears to me to lie in the fact that in these cases there is considerable play for the muscles in all movements between extreme lateral deviation (toward the side opposite to that of the paralyzed muscle) and the median line.

An important characteristic of congenital paralysis lies in the existence of binocular vision, which was found in all the monocular and binocular cases that I have seen and in many of those reported. There is also absence of diplopia.

Kunn explains the varying positions in which the eyes have been found—parallelism, convergence or divergence—as those naturally assumed by the eyeball in the orbit; and that these vary need not be a matter of surprise, since the different primary positions of otherwise normal eyes are found to vary greatly. The absence of contracture has been noted in most of the cases published and is to be considered as a mark of congenital paralysis.

Concerning secondary deviation (of the normal eye when the affected one is used for fixation) which is almost universally present in acquired paralysis (excepting in very rare cases when the paralysis has existed for many years), we may state that this sign, as Graefe long ago discovered, is always absent in the congenital cases. This is explained by Kunn as due to the fact that no association between the paralyzed muscle and its fellow has ever existed. If, therefore, attempts are made to call the paralyzed muscle into activity there is no impulse sent to the fellow muscle.

Many cases of congenital paralysis of the ocular muscles have had associated with them other congenital defects, such as facial paralysis, unequal development of the two sides of the face, mental disturbances, etc., etc.

Heredity has been a conspicuous factor in cases of congenital paralysis.

Considering the peculiarities of congenital paralysis, Kunn asserts that these cases form a definite class, and he ascribes them, not to fœtal disease or to atrophy of the centres, but to *arrested development*. He calls attention to the cases in which absence or presence of the muscles has been demonstrated in congenital paralysis, and to one (Bernhardt's) in which the centre was found normal. His conclusion is that either of these portions or any others in the motor chain may suffer arrest of development. He therefore discards the term nuclear paralysis and substitutes "congenital motor defects of the eyeballs" (angeborene Beweglichkeitsdefecte der Augen), a term which I think should be adopted until the nature of these cases is more definitely determined.

NOTICE.

All inquiries concerning the admission of free, part pay, or private patients to the Johns Hopkins Hospital should be addressed to Dr. Henry M. Hurd, the Superintendent, at the Hospital.

Letters of inquiry can be sent, which will receive prompt answer, or personal interviews may be held.

Under the directions of the founder of the Hospital the free beds are reserved for the sick poor of Baltimore and its suburbs and for accident cases from Baltimore and the State of Maryland. To other indigent patients a uniform rate of $5.00 per week has been established. The Superintendent has authority to modify these terms to meet the necessity of urgent cases.

The Hospital is designed for cases of acute disease. Cases of chronic disease are not admitted except temporarily. Private patients can be received irrespective of residence. The rates in the private wards are governed by the locality of rooms and range from $20.00 to $35.00 per week. The extras are laundry expenses, massage, the services of an exclusive nurse, the services of a throat, eye, ear and skin or nervous specialist, and surgical fees. Wherever room exists in the private wards and the condition of the patient does not forbid it, companions can be accommodated at the rate of $15.00 per week.

One week's board is payable when a patient is admitted.

MALARIAL INFECTION AS A SOURCE OF ERROR IN SURGICAL DIAGNOSIS.

By W. W. Russell, M. D., *Associate in Gynecology.*

The discovery of the hæmatozoa of malaria and the subsequent establishment of their relation to malaria as the definite cause of the disease, has almost excluded the possibility of its being offered as a cause for irregular fevers attending surgical affections. Yet with this definite knowledge of the cause of malaria, we still find in the current literature cases cited with atypical elevations of temperature associated with surgical troubles which are ascribed to malarial influences. Such assertions are inexcusable when a positive diagnosis can be obtained by an examination of the blood. This neglect has led to appalling mistakes, of which an example came to my knowledge a few years ago. A patient presented herself to a surgeon complaining of pain in the lower abdomen, pelvis and back, with chills and fever. Upon examination a mild pelvic peritonitis was found. She was advised to have the tubes and ovaries removed, and submitted to the operation. The patient had a severe chill the next day, followed by a rise of temperature to 107° and collapse. The blood was then examined and found teeming with malarial organisms. The patient eventually recovered, but nevertheless the operator was negligent in not excluding by systematic study of the case the possibility of malarial infection, before performing what proved to be an unnecessary mutilating operation.

My experience during the August and September service in the Gynecological Wards of the Johns Hopkins Hospital was interesting from the number and variety of cases in which malarial organisms were found. The possibility of malaria being superimposed upon various surgical affections was strikingly shown, as well as the dangerous conclusion which might be reached without the positive proof of the presence of the organism in the blood. The experience teaches further that in malarial districts malaria must be always suspected in fevers following operations without an assignable cause.

Some writers have suggested that temperature and pulse charts are valueless during post-operative convalescence. The danger of such teaching is well demonstrated by the following cases, in which the first suggestion as to the true character of the trouble was found on the daily charts.

Case No. 1. Mrs. D. G., age 33. Patient complains of loss of control of bowel. The personal history is negative until 1893, when she had an attack of typhoid fever. This was followed by an abscess around the rectum, and a recto-perineal fistula, which was opened by her consulting physician; since then there has been complete incontinence of the bowel. She has been operated upon twice within the last year for restoration of the sphincter ani without success. She suffers almost constantly from diarrhœa, but the stools do not contain blood or mucus. General health is excellent.

Operation Sept. 9, 1896. The ends of the retracted sphincter, which were separated two-thirds the circumference of the bowel, were dissected out of scar tissue and brought together by silk-worm gut sutures passed deep into the tissue.

Sept. 18. Sutures removed. The sphincter well contracted and apparently holds firmly, but some separation of skin surfaces. There has been no escape of flatus or feces since the operation, and the patient is able to control her bowels for an indefinite period.

Sept. 23. The patient's convalescence has been uninterrupted, the temperature ranging from 98° to 100.4°. This morning a severe chill occurred, and the temperature rose to 103.8°, the pulse during this time not reaching over 84 beats per minute. By 5 P. M. the temperature had fallen to the normal line, and continued so until 10 A. M., September 25, when there was a chill and a similar rise of temperature to 103.6°. The blood at this time was examined and found to contain numerous malarial organisms of the tertian type. Quinine in doses of five grains every five hours was given, and thereafter three grains four times a day until the fifth day following the last chill. After the patient had taken the quinine there was no chill or rise of temperature, and the organisms completely disappeared from the blood.

The patient was discharged from the hospital October 2d, in excellent health, the result of the operation perfect.

The initial chill did not occur until fourteen days after the operation, but during this period there had been a slight daily rise of temperature not reaching above 100°. The wound broke down but slightly. The first suspicion was naturally directed to the seat of operation, but as the condition there did not seem to warrant interference, it was thought advisable to await developments. The chill on the second day suggested at once the blood examination, with the happy result given in the case.

Case No. 2. L. G., age 27. Patient's personal history negative until four days before admission. She was three months pregnant, and had attempted to introduce into the uterus an instrument to produce abortion, but her doctor says that she had introduced it into the bladder instead of the womb. Since then she has had constant pressing pain in the region of the bladder and lower right side, with fever. For four days micturition has been exceedingly painful, and she has noticed that the urine is bloody. There is a great deal of tenderness in the region of the bladder, and the bearing-down pains have grown steadily worse. On examination the patient was determined to be in the third month of pregnancy. The bladder was inspected in the knee-breast position with a 9½ vesical speculum. The entire mucosa was found to be of a deep fiery-red color, bleeding on the slightest touch, and quantities of free blood poured out through the speculum. The foreign body could not be made out on account of the hemorrhage. The urethra was greatly dilated, and easily admitted the little finger. On palpation of the bladder, by passing the finger through the urethra the foreign bodies could be easily felt, but were too large to be extracted. An incision was then made into the base of the bladder and a disintegrated sea-tangle tent was removed. A permanent fistula was established by suturing the mucous membrane of the bladder to that of the vagina.

The patient's temperature from the time of operation to the

thirteenth day had ranged from 98° to 101.2°, at which time there was a decided chill followed by a rise of temperature to 102°, the pulse reaching 136 beats per minute. By five o'clock the temperature had subsided to normal. A similar rise occurred on the second day following, reaching 104.8°. The blood examination revealed numerous malarial organisms of the tertian type. The patient was not given quinine until the third chill, which occurred on the second day following, when the temperature rose to 105.8°; the same quantity was then administered as in the preceding case, with a similar result. The cystitis having cleared up on the twenty-ninth day after the operation, the fistula was closed in the ordinary way and the patient was discharged ten days later in excellent condition.

The acute inflammation of the bladder suggested at first thought an ascending pyelitis as the cause of the chill, but again the temperature chart and the examination of the blood definitely settled the diagnosis.

Case No. 3. A. G., age 33. Patient was operated upon by Dr. Kelly in the hospital in October, 1895, for chronic inflammatory disease of the right tube and ovary and hæmatoma of the left ovary. She returned complaining of chills and fever of about one week's duration, and a discharge from the abdominal incision. Since the operation the menses have been irregular, appearing at intervals of four to eight weeks. No leucorrhœa.

Present condition. Patient says she has been greatly benefited by the operation and has gained about forty pounds. She had not suffered any pain until the past month, when she began to have some of a shooting character in lower right side and back. They were not constant, but at times very severe. At present there is no abdominal tenderness, but there is a slight discharge from the incision. One week ago she was taken with chills and fever, which have recurred daily up to the present time. During this period the abdominal pain has not been more marked than previously. Micturition negative, the bowels constipated.

The patient's temperature on admission was elevated. The physical examination did not reveal the cause of the fever. A small sinus in the lower angle of the abdominal incision leading down to a buried silver wire suture explained the discharge of which the patient complained. By a vaginal examination the uterus was found movable and not enlarged. A sensitive induration extended from the right cornu out to the pelvic wall. On the left side of the uterus there was no evidence of disease.

The day after admission a morning chill occurred, followed by a rapid rise of temperature, which subsided during the afternoon. As the condition suggested malaria, a blood examination was advised, and several tertian organisms were discovered. Quinine was immediately ordered, with complete disappearence of all symptoms in a few days. The silver wire suture was withdrawn, followed by spontaneous closure of the sinus.

The patient's previous history and operation at once gave ground for assigning a local pelvic trouble as the source of the infection. This seemed to be confirmed by the condition found by digital examination, and operative procedure was almost decided upon when the subsequent chill put us upon the right clue.

Case No. 4. Mrs. M. J. T., age 49, colored. Married. Has had five children and three miscarriages. The youngest child fourteen years old. First labor was a breech presentation, and in all the others the placenta had to be extracted. Miscarriages all occurred before the birth of the last child.

Menstrual history: she has always been regular until six weeks ago, when the flow lasted for two weeks. The usual duration is one week, and the flow very profuse. Last regular menstruation two months before admission. She has had a free leucorrhœal discharge for the last two weeks, which has become offensive.

Family history negative.

Personal history: she had rheumatism in legs during past year, typhoid fever twenty-five years ago. There is a history of chills and fever for a number of years. The present trouble began fifteen years ago, when she first noticed a slight swelling of the abdomen, which has been growing slowly and steadily larger. During the past two weeks she has suffered with severe bearing-down pains in the lower abdomen. She has had considerable palpitation of the heart. The week before admission claims to have had chills and fever every other day.

General condition: appetite poor; she sleeps fairly well; is a well nourished woman, but has not been able to do any work for the past two weeks on account of the pain.

Examination: heart and lungs negative. Skin and mucous membranes pale. Abdomen distended by a mass extending from symphysis pubes to umbilicus, which has a symmetrical outline, has a smooth surface, is non-fluctuating, softish, and decidedly sensitive.

Vaginal examination: the cervix is low in the pelvis, nearly flush with the introitus, the os is dilated to about 4 cm. in diameter; the lips are soft, but do not break down on examination. The canal is occupied by a soft boggy mass which protrudes from the os. The tumor in the abdomen is directly continuous with the cervix.

Diagnosis: submucous myoma.

Operation Sept. 5, 1896. Hysteromyomectomy after Dr. Kelly's method of continuous incision from left to right. No difficulty encountered. A gauze drain was introduced through the dilated cervix into the pelvis. The abdomen closed with buried catgut and silver wire sutures. The patient's temperature from the time of admission to operation ranged from 98.6° to 101.6°, this was believed to be due to the absorption of toxines from the necrotic surface of the myoma.

Sept. 10. The cervical drain was removed, temperature at the time being 102°. An offensive discharge became apparent after the removal of the drain.

Sept. 12. Abdomen exceedingly tender. The tongue is raw and sore.

Sept. 13. Abdomen still more sensitive. The temperature is slightly lower since removal of the pack. The tongue is decidedly worse, and the vaginal discharge continues profuse and foul.

Sept. 14. Abdominal tenderness less marked and more localized about the incision. On examination, the incision was

found widely separated throughout its length, with a free discharge of pus. The vaginal discharge continues as before. Temperature 103.4°.

Sept. 15. Patient not improved. The vaginal discharge continues. Tongue decidedly cleaner. The abdominal incision is still discharging freely. Complains for the first time of swelling and pains in thighs and feet, especially of the right leg. On examination the right leg was found swollen and sensitive to touch. At 4.20 temperature suddenly went up to 105°, followed by great exhaustion and signs of collapse. Patient responded to stimulants, and in a few hours was much more comfortable.

Sept. 16. The discharge from the incision still continues free. The right leg very badly swollen and exceedingly sensitive. Vaginal discharge less and tongue much better.

Sept. 17. Tongue practically well, and other symptoms greatly improved.

Sept. 19. Patient improved until 4 P. M., when temperature rose to 104.2° attended with delirium. No induration could be felt about stem of cervix or in pelvis.

Sept. 24. Patient's blood examined and the tertian organism discovered. Patient was put upon quinine, but it made no impression upon the temperature.

Sept. 27. The incision nearly healed, and the vaginal discharge has become less and more healthy in appearance. Temperature still ranges from 100.2° to 103°.

Oct. 15. The temperature since operation has not fallen to normal, the highest point being 105.8°, but this morning at eight o'clock it dropped to 98.6°.

Nov. 4. Patient discharged to-day. Temperature since last note has never reached higher than 100°, and for the past week has been practically normal. The abdomen is perfectly healed. The vaginal discharge is healthy, and the pelvis is free from inflammatory induration.

The coincident malarial and wound infection made this case most puzzling, and if the other cases had not aroused our suspicions, it is doubtful whether the organism would have been searched for. While the administration of quinine did not at once control the temperature, it at least disposed of one cause of it.

THE AGGLUTINATIVE ACTION OF THE BLOOD SERUM OF PATIENTS SUFFERING FROM TYPHOID FEVER.

By E. Bates Block, M. D., *Assistant Resident Physician, The Johns Hopkins Hospital.*

Perhaps the most suggestive result of the study of the artificial production of immunity in animals, since the introduction of the serum-therapy, has been the application of the principles expounded by Pfeiffer to the diagnosis of typhoid fever.

It will be recalled that this author, by the use of the blood serum of animals rendered immune from the cholera vibrio, was able to show that the bacterial protoplasm of the various comma bacilli, more or less nearly resembling the cholera organism, were distinct from each other and were each one entirely specific. He found that the cholera organisms, when mixed with the blood serum of an immunized animal and introduced into the peritoneal cavity of a guinea-pig, quickly lost their motility and very soon underwent disintegration.

This effect, which was so striking and invariable when the micro-organism and the blood serum of an animal immunized from it were employed, failed to be exhibited when, with the same serum, other, though nearly related, micro-organisms were subjected to the same treatment. Thus it became possible, at a time when the specificity of the vibrio of Asiatic cholera was more or less unsettled, to prove by this reaction its entire independence, and to separate it from forms nearly approaching it in morphology and presenting many of its cultural characteristics.

The application of the same principle to the differentiation of the bacillus of typhoid fever from the colon group of micro-organisms was successfully made by Pfeiffer, and later by Lœffler, Dunbar, and others. The credit, however, of modifying the test so as to utilize specific bacteria for the detection of the presence of definite immunizing substances in the body fluids, should be given to Gruber and Durham, Widal, and Grünbaum. The particular phenomenon which promises to be so useful in assisting in the diagnosis of typhoid fever consists in a clumping, or agglutination, of the typhoid organisms when brought into contact, outside the body, with the body fluids containing the immunizing substances. This reaction, first noted by Bordet, and more fully studied by Gruber, and his pupils Durham and Grünbaum, occurs when the bacteria are mixed with blood serum containing a sufficient quantity of the specific immunizing substance.

The method employed by Widal is to obtain a syringe of blood from a vein of the forearm of a patient suffering from typhoid fever, the serum being allowed to separate from the clot. He then makes a dilution of from ten to twelve parts of bouillon to one part of serum, inoculates this with typhoid bacilli, and places it in the thermostat at 37°, until the next day, when the upper part of the fluid appears clear and a white precipitate is seen at the bottom. The control tube is more cloudy and no precipitate forms.

This test-tube reaction was first noticed by Charrin and Roger in working with the bacillus pyocyaneus in animals immunized against that organism.

The method advised by Grünbaum, in the *Lancet* of the 19th of September, 1896, seems to be the most satisfactory, and with slight modifications is the one which we have adopted here. His method is as follows: A drop of blood is taken in a U-shaped capillary tube from the ear or finger and centrifugalized; the tube is then broken off at the junction of the serum and the corpuscles, and the former blown out upon a glass slide or into a watch-glass. The necessary quantity is then

sucked up to the first mark on a straight capillary tube which has another mark corresponding to sixteen times the volume indicated by the first mark. Bouillon is then sucked up with the serum until the second mark is reached. The fluid is then blown out into a watch-glass, thoroughly mixed, and again sucked up, the process being repeated several times to insure thorough mixing of the bouillon and serum. The emulsion of typhoid bacilli is prepared by taking a platinum loopful of a culture not more than twenty-four hours old, grown on rather dry agar, and carefully rubbing it up with a drop of the bouillon against the side of a test-tube containing one ccm. of bouillon, and subsequently mixing it with the whole amount. A drop of the serum-mixture and a drop of the typhoid emulsion are then thoroughly mixed on a cover-slip and examined as a hanging drop. A control cover-slip should be made from the typhoid emulsion alone in order to be sure that there are no, or very few, pre-existing clumps. If the serum-emulsion-mixture be looked at immediately after mixing, the bacteria will be seen free in the field and actively motile. Gradually, however, if the case be one of typhoid fever, they will be seen to stick together, and the clumps become larger and larger by the addition of other bacilli, until, in half an hour, if the reaction be marked, all, or nearly all, of the bacteria are in clumps or agglutinated, and have completely lost their motility. The only modification which we have made is to take the blood from a vein of the forearm; this affords a larger quantity of serum and permits of several different tests being made from the same serum. This seems by far the most satisfactory method for several reasons: (1) Normal serum, if not diluted sufficiently, causes a slight clumping of the bacilli, and in some cases it is quite as marked as in very early cases of typhoid fever, although in the absence of typhoid fever the motility is not destroyed. (2) The clumping is only relative, and without time limitations as well as a definite degree of dilution the results cannot be considered constant. (3) This method is much cleaner than the dried blood method (*vide infra*), and the amount of dilution can be more accurately controlled. (4) The reaction may be more quickly determined than by the test-tube method. According to Grünbaum the reaction may be present on one day and not on another, so that several examinations should be made. By this method he obtained a marked reaction in eight cases of enteric fever, and a negative result in thirty-two other cases, with the exception of a case of jaundice, in which there was a marked reaction. So that the negative result does not exclude the presence of typhoid fever; while a positive result, if marked, is in favor of the diagnosis of typhoid fever.

In twenty cases of typhoid fever tested in Professor Osler's wards, in conjunction with Dr. C. N. B. Camac, with a dilution of 16:1, and the time limited to one-half hour, the reaction was complete or marked in eleven cases. The earliest reaction observed was on the 10th day; the latest on the 106th day: in the others the test was made between the 41st and the 69th day, except in one case in which it occurred on the 90th day. All of these cases had had very severe attacks, and two of them had relapses.

In six cases the reaction was partial. They ranged between the 16th and 67th days, only two of them being later than the 38th day. In all of these cases the illness was of moderate severity, although one case had a relapse.

In three cases the reaction was slight; these were all mild cases, and were tested on the 8th, 24th and 60th days of illness. One of these cases had a relapse. The only diseases other than typhoid fever in which we have obtained clumping of typhoid bacilli are diabetes and malaria. In one case of diabetic coma a partial reaction was obtained, and in one case of pernicious comatose malaria it was very marked, although the motility of the organisms was not completely destroyed in either of these cases, nor did either of them give a history, or show evidence of the existence, of typhoid fever.

At present we are unable to say definitely to what property of the serum agglutination is due, although many theories have been brought forward to explain it.

Besides in the serum, agglutination has been observed in milk, urine, pus, blister-fluid and tears. We believe that we have obtained it from the stools in two cases.

It is not given by œdematous fluid, aqueous humor, saliva, gastric juice, and bile free from blood.

Among the diseases in which it has been demonstrated are cholera, pyocyanean infections, typhoid fever, tetanus, pneumococcus infections, diphtheria, and so forth, but each with its own specific serum.

In one case of typhoid fever the blood taken at autopsy yielded only a partial reaction.

In a case with perforation, successful operation and subsequent relapse, the reaction on the 106th day was very marked within 5 minutes, though the patient at the time was convalescent.

According to Widal and Sicard, the clumping is less marked as the activity of the fever lessens, disappearing altogether about the 41st day. In the few cases that we have tested here this did not seem to be the case.

In most of the foregoing tests cultures of typhoid bacilli from three different sources were used. The cases that reacted at all, reacted most markedly with one of them alone; with the other two cultures agglutination was much less marked. This is fully in accordance with the fact that the more virulent the culture the more marked is the reaction, although the virulence of this particular culture had not been established. Also, as was pointed out by Pfeiffer, if the animal be rendered immune by a very virulent culture, the agglutinative action is remarkably increased.

There remains one more method which, if it can be made more accurate, will be easy, and of practical value as an aid to diagnosis. Widal first noted that dried serum, even dried blood, if moistened with sterile water or with serum, would produce the reaction. Wyatt Johnston of Montreal has tried this method very thoroughly, and the following is taken from his article. A drop of blood is obtained from the ear or finger on a sterile glass slide or piece of paper, allowed to dry, and is then moistened with a drop of sterile water. The water is mixed with the serum of the drop of blood; an oese of this is then added to an oese of typhoid emulsion, and examined as a hanging drop. By this method in some cases he obtained the reaction as late as four weeks after taking the blood.

He seems to have been successful in every case tested.

The results which have been obtained here by this method are so far uncertain, and do not show the regularity of action so prominent in the former method.

In the 17 cases of typhoid fever tested in Professor Osler's wards, the reaction with dried blood was marked in 9 cases; of these, 6 were severe attacks and 3 had been mild.

In three cases the reaction was partial; two of these were severe, and one was of moderate severity.

In two mild cases, one on the 3d, the other on the 17th day of illness, the reaction was doubtful.

In three cases the reaction was slight; of these, one was a mild case and one severe. The third case at the beginning of relapse showed no agglutination, but nine days later it was slight. The relapse was of moderate severity.

I wish to express my thanks to Professor Osler for the opportunity of studying the cases included in the report.

PROCEEDINGS OF SOCIETIES.

THE JOHNS HOPKINS HOSPITAL MEDICAL SOCIETY.

Meeting of October 19, 1896.

Dr. THAYER in the chair.

Case of Addison's Disease—Death during Treatment with the Suprarenal Extract.—DR. OSLER.

Maggie S., aged 21, applied at the Medical Dispensary of the Johns Hopkins Hospital, May 15, 1896, complaining of weakness and discoloration of the skin. A day or two subsequently she was seen by Dr. Thayer, who suspected Addison's disease and asked me to see her. The condition seemed very suggestive, and I admitted her to Ward G on June 19th. The following is the account as obtained by Dr. Block:

The family history was good, though one grandfather died of consumption of the throat, and one uncle had consumption. She has four sisters and two brothers, all well.

As a child she had eczema very badly, which again appeared after an interval of twelve years, affecting only the ears. She had diphtheria and scarlet fever, and three years ago influenza. She has had what she calls slight rheumatic trouble in the left knee for four or five years. For the past four winters she has had cough, with a small amount of sputum, never any night sweats. The cough always ceased in the spring. She has often had cramps in the stomach, particularly when she caught cold. Her menstrual function has been regular. In the dispensary history it is stated that a year ago last winter some of the glands were swollen, and the mother said she had scrofula.

Her present illness she thinks dates from about a year ago, when she began to have headaches in the frontal region, which have troubled her on and off until about eight weeks ago. At this time she had a chill, the only one she has ever had, and following it she was so prostrated and weak that she was in bed for nearly three weeks. At this time she often had the cramps in the lower abdomen. Two months after the headaches began, that is in August, 1895, she first noticed a change in the color of the skin, appearing about the face, and particularly the nose, which became very yellow and then dark brown. The upper lip was next affected in the same way, and gradually the whole face, which assumed a yellow color with dark brown blotches. The process came on very gradually and soon affected the surface of the body and the skin of the external genitalia. Accompanying this pigmentation and the headaches she had weakness, which gradually became more and more marked. She tired easily on walking, often got suddenly dizzy, everything became black before her, and she would have to catch hold of the nearest object to prevent falling. She states that these sudden weak feelings would come on also when she was sitting still. She had lost in weight in two years ago from 115 to 96 pounds. A symptom, too, of which she complained a good deal was itching of the skin.

She was a bright, intelligent looking girl, not much emaciated. She had no fever, and for the eleven days she was in hospital the temperature did not rise above 99.5°, and the early morning temperature was often 97°. There was no anæmia. The blood count on admission was 4,500,000 red per cubic millimetre, and on the 25th it was above 5,000,000. There was no leucocytosis, and the differential count gave polynuclear leucocytes, 33 per cent.; small mononuclear, 45 per cent.; large mononuclear, 12 per cent.; transitional, 2 per cent.; eosinophiles, 4 per cent.

The condition of her skin was as follows: The scalp had a shining yellow color; the hair was dry and very coarse. The face had a yellow, dull, dark color, with blackish brown splotches, situated just above both eyebrows, across middle half of nose, and involving the whole of upper lip. The eyelids and the inner canthi of the eyes were also very dark. The face showed from fifteen to twenty very small, almost black pigmented areas, some of which resembled moles. The neck had similar small areas.

The abdomen, chest, back, legs and arms had a similar dark yellow brown color. The areolæ of the nipples were large and deeply pigmented. Below and to the left of the umbilicus there was a bean-sized brown-black area. Both flanks were almost black in color. Nearly opposite the first lumbar vertebra on the back was a bean-sized mole, deeply pigmented. The gluteal grooves were almost black. The skin of the legs was brownish, and around the knees deeply pigmented. The lower parts of the legs were not so dark colored. The backs of both hands were deeply colored, especially the joints and about the roots of the nails. The hands and feet were cold and moist. On the inner side of left wrist were two deeply pigmented scars. Over the whole body were pin-head sized whitish areas which gave somewhat the appearance of cutis anserina, but not raised. No large leucodermic patches were present. There were a few patches of pigmentation on the buccal mucous membrane.

The lungs were negative; she had no cough and no expectoration. The heart sounds were rather weak and not well heard. There was a venous hum in the right side of the

neck. The pulse ranged from 76 to 96 and was regular. There was no enlargement of the liver or of the spleen, and there was no dilatation of the stomach. The examination of the lower abdomen was negative. There was no enlargement of the external glands. The urine was acid, amber colored, specific gravity 1015.

On June 22nd the adrenal glycerin extract was begun. It was made in the following manner. Fifty-four perfectly fresh pig's adrenals were finely chopped up and thoroughly mashed with pestle and mortar. They weighed 114 grammes. To this 114 cc. of pure glycerine was added, and 114 cc. of aqua chloroformi. This was allowed to macerate after thorough mixing for twenty-four hours. It was then strained several times through towels and twice through filter paper, the latter in a refrigerator. The last filtrate was a rather cloudy, reddish, thick fluid with a meat-like odor. About 200 cc. remained after filtering, so that 3.7 cc. represented one gland. The patient was started on ʒ ss t. i. d. = 2 cc., or one-half a gland.

On the day following the administration she complained of cramps in the lower part of the abdomen and slight headache, symptoms which she said she had frequently had on previous occasions.

On the 25th she had hiccough very badly for fifteen minutes. This, too, she states that she has had at intervals for the past year. There had been no increase in the pulse, no change in the temperature. Her appetite and digestion were good, and the blood count had risen above normal.

On the 29th she was not so well. She vomited for the first time. The extract was then stopped. She began to have diarrhœa, and felt very giddy and faint.

On the 30th the vomiting persisted, and she had attacks of weakness in which she became short of breath. The cramps in the abdomen had ceased, however, and she felt better. There was no increased rapidity of the heart's action.

July 1st. At 2.45 this morning she became very noisy, screaming and calling out, and the pulse was very weak. The temperature was 97.5°. She became quiet again, but did not seem quite rational. At eight o'clock she lay with her eyes half closed, breathing rapidly and noisily. The pulse at the wrist could not be felt. She would not protrude her tongue, and when aroused she became very restless and tossed herself about, throwing off the clothes. The pupils were of medium size and reacted to light. The heart impulse could not be felt; the sounds were very feeble, and the pulse was 128 to the minute. At times the respirations became extremely feeble, almost sighing. A few minutes after this note was made the patient died suddenly.

The autopsy by Dr. Flexner showed the following condition: Both suprarenal glands were the seat of extensive caseous disease, chiefly in the form of nodules which were partially calcified. There was no trace of normal gland tissue remaining. The caseous process extended beyond the limits of the gland into the adjacent lymph glands, which, though little enlarged, were also involved. The abdominal lymph glands and those of the anterior mediastinum were somewhat swollen. There was no involvement of the solar plexus or of the splanchnic nerves. Peyer's patches in the ileum were a little swollen, and the solitary follicles in the large intestine were somewhat enlarged. The left lung showed a thin, wedge-shaped, triangular area near the base, with caseous nodules, some as large as a pea. At the right apex there was some thickening and retraction of the pleura covering an old caseous, partially calcified nodule, and the pleura on this side was obliterated. There were no other tuberculous foci in the body. The heart looked normal.

Remarks.—Of course the first question which suggests itself is whether the toxic symptoms, of which this patient died, were due to the suprarenal extract. Addison's disease may prove fatal either by a gradual asthenia, the result of the vomiting and diarrhœa; by sudden syncope, which may occur at any stage of the disease; by extension, local or general, of the tuberculous process, and lastly by a sort of toxæmia, in which the patient for several days may have nervous symptoms, such as this patient presented. In a paper published in the International Medical Magazine for February of this year, in which I have reported six cases of the disease, Case IV, a patient of Dr. Mullin's, at Hamilton, for forty-eight hours before death had the following group of symptoms: a slight convulsion, which was followed by a dazed condition in which he did not seem to appreciate what was said, great feebleness and rapidity of the pulse, sighing respirations, cold hands and feet, and subsequently much restlessness, pulling at the bed-clothes, and tossing about from side to side. The symptoms were very much the same as those presented by this patient, and I do not think that we can hold the extract responsible. The doses were not excessive. I had hoped to show you the case of Addison's disease which we had under treatment last year and which was shown to this society on several occasions. He has not been regularly under treatment, but Dr. Futcher reports that he is still alive, though weak and failing.

Treatment of Ectopic Pregnancy by Vaginal Puncture.—DR. KELLY.

I have an interesting and important subject to bring before you to-night, a novel method of treatment of extra-uterine pregnancy, briefly discussed before this Society at the meeting, October 23, 1893 (see Bulletin, Nov., 1893, p. 109).

Previous to October 23, 1882, it had been my habit, whenever extra-uterine pregnancy was recognized, whether ruptured or unruptured, to extirpate the sac and the clots, through an abdominal incision, at the earliest possible moment, but I had a patient who was too weak for this plan of treatment, and I determined to try a vaginal puncture. I therefore punctured the vaginal vault with scissors, cleaned out the clots, and drained, and the patient got well. In another case, after I had opened the abdomen I found the intestinal adhesions so intimate with the sac and so well walled off that I determined to make a vaginal puncture. With my finger introduced within the abdominal incision to guard against any encroachment upon the abdominal cavity, I made a free opening into the vaginal vault, through which the wound was drained, and the patient recovered. I have now the records of ten cases treated in this way, all of which have done well; there has been no mortality, and no marked suppuration in the process of recovery. Convalescence has been

rapid and smooth, and it is especially satisfactory, in that the patient has simply been relieved of the abnormal products without losing any of her normal pelvic structures.

The Operation. I do not consider it necessary any more to make the abdominal incision. After an accurate diagnosis of the case, outlining the sac and its relations by abdominal and rectal palpation, and after careful vaginal palpation, to determine the proximity of the sac to the upper vaginal wall, a point is located behind the cervix in the vaginal fornix close to the sac, and a pair of sharp scissors is plunged upward in the direction of the axis of the pelvis. The scissors are then opened and some of the fluid blood usually trickles out at once. Larger scissors are then introduced, if need be, and the opening widened by withdrawing them with blades open. It is important to have a large opening, both for the purpose of getting two fingers in to clean out the sac and for good drainage afterward. The torn edges of the wound never bleed excessively. The sac must be delicately cleaned out, and everything be brought away down to the shell of the sac and surrounding adhesions. In one of these cases I brought out a well-defined Fallopian tube cast, due to hemorrhage in the tube. The cleaning out is followed by irrigation, after which the sac is plugged with gauze, which is left in for several days, and sometimes longer, and then the wound is washed out daily until it closes. I know of no instances of more than moderate suppuration following this plan of treatment.

The *a priori* objections to this procedure are several. In the first place, the question arises, would you treat an unruptured tubal pregnancy in this way? I have never seen but two early unruptured tubal pregnancies, and it is improbable that an unruptured tubal pregnancy at an early stage would be diagnosed at all. It is then practically a question which we do not have to answer. As to the possibility of hemorrhage, the tube having ruptured, the villi become degenerated, and sudden hemorrhage from these surfaces is the great danger to which these patients are liable. But practical experience from these ten cases shows that the occurrence of hemorrhage is not an imminent danger. In nine cases there was no hemorrhage of any moment after cleaning out the sac. In one case, however, a very important exception, there was an active hemorrhage which I was unable to stop, so I opened the abdomen, extirpated the sac and so checked the hemorrhage, and the patient recovered. For this reason any one who undertakes the vaginal puncture must be prepared to make an abdominal section.

One would think that such cases would be particularly prone to suppurate. You expose an area which contains debris not under the control of the tissues of the body, and so peculiarly liable to become septic, if any favorable opportunity is offered; but under the plan of treatment I have detailed, active suppuration has not occurred.

There is one other danger, and one of these cases vividly illustrates it. In some cases the walls of the sac are quite thin, and may readily rupture up towards the abdominal cavity. This did not occur in any of my cases, but something akin to it did. The douche nozzle in one of the earliest cases was thrust through the sac into the abdominal cavity several days after the operation, and a couple of quarts of boric acid solution was forced into the peritoneal cavity. I had to open the abdomen one night above the symphysis, to wash out the boric acid solution. The patient made an excellent recovery in spite of the fact that over a litre of the solution was in the abdomen for some time.

The plan I have outlined not only marks an important deviation in the treatment of extra-uterine pregnancy, but it also will serve as an index of the line of progress that is being made in general in the domain of gynecology. I uniformly treat all pelvic suppuration cases in the same way where I have good reason to think that I can get at the pus and establish good drainage. The present method of treating these cases is to take out the uterus by the vagina. I have insisted all along that I can get just as good drainage without taking out the uterus. The subject has therefore a broader bearing than the aspect in which I have presented it before the society to-night.

Dr. L. F. Barker.—One objection that might have been raised a year or two ago to the operation Dr. Kelly advises, has recently apparently been made less weighty, that is, the danger of sepsis from bacteria in the vagina. It has been shown by Menge, of Professor Zweifel's clinic in Leipzig, for non-pregnant, and by Krönig of the same institution for pregnant women, that the vagina is nearly always aseptic, that is, free from bacteria that can do harm to the tissues. Döderlein had asserted that the vaginal secretions of women could be divided into two classes, those in which pathogenic bacteria were present and those in which they were absent. It has been shown by Menge and Krönig that within a few hours after the introduction of any body from the outside, even though it be not aseptic, the vagina becomes practically free from pathogenic bacteria. Even if bacteria be introduced experimentally in pure cultures, the vagina is capable of freeing itself in a few hours of streptococci, staphylococci and other pyogenic forms. Menge and Krönig found that the normal inhabitants of the vagina, both cocci and bacilli, are for the most part anaërobic and non-pathogenic. Krönig in his experiments first introduced artificially into the vagina the bacillus pyocyaneus in order to see the effect of the vaginal secretions upon it. Having found that in a few hours all the bacilli were destroyed, he afterward introduced virulent streptococci and staphylococci, and they were just as rapidly and surely destroyed. The vaginal secretion therefore appears to possess active bactericidal powers.

These investigators have further pointed out that irrigation of the vagina before the introduction of the bacteria materially lessens the bactericidal powers of the secretions. Thus for example, irrigations with lysol or sublimate, or the thorough scrubbing of the vagina, previous to the introduction of the outside bacteria, enabled the bacteria to survive for a long time in the vagina, whereas if the irrigation and scrubbing were omitted the bacteria introduced were rapidly killed. They concluded that in cases of operation in the vagina or through the vagina, irrigation should not be employed, and that the most important point to be observed is to omit any examination with fingers that are not aseptic, or the introduction of anything which could carry with it pathogenic bacteria into the vagina, including the prohibition naturally of coitus for some hours preceding the operation. It is better,

they think, to trust to the natural bactericidal powers of the vaginal secretions under all circumstances, even under pathological conditions, than to attempt to sterilize the vagina by ordinary irrigating methods. I think the results of these investigations are very important in connection with the operation which Dr. Kelly has spoken of to-night, and may in part account for the successful results and the absence of suppuration in his cases. (Cf. review of articles by Krönig and Menge, J. H. H. Bulletin, Vol. VII, Nos. 59–60.)

Dr. KELLY.—A very good contrast, and one which answers Dr. Halsted's question, is that between this class of cases and the suppurating sacs that we open; in the latter, although carefully cleansed, there is a continuous weeping of pus during the healing process. The two classes of cases are different in their clinical characteristics.

I am very glad that Dr. Barker has called attention to these important results from Professor Zweifel's clinic; they are not sufficiently well known in this country. It is interesting to note that Menge's work has superseded that of Döderlein.

NOTES ON NEW BOOKS.

Manual of Midwifery for the Use of Students and Practitioners. By W. E. FOTHERGILL, M. A., B. Sc., M. B., C. M., etc. With double colored plate and 69 illustrations in the text. 12mo, pp. 484. (*New York and London: The Macmillan Company*, 1896.)

This is an admirable little book, clearly and concisely written and systematically arranged. The illustrations, when not diagrammatic, have generally been made from frozen sections, and are a genuine assistance to the student. The account given of menstruation, ovulation and conception is fresh and in accord with modern views. Ectopic gestation is also fully and satisfactorily considered, and the chapter in which it is described is a model of clear and accurate statement. The chapters on labor, the use of the forceps, the induction of premature labor, symphysiotomy, etc., are also to be commended. As might reasonably be anticipated, there is a degree of local coloring in the book which is pardonable when the position of Edinburgh in medical teaching is considered.

Twentieth Century Practice of Medicine. Volume V. Diseases of the Skin. Edited by THOMAS L. STEDMAN, M. D. (*New York: Wm. Wood & Co.*, 1896.)

The contributors to this volume on dermatology consist of some of the most competent experts both in this country and in Europe, and the results are, speaking generally, excellent. Of course, as one would expect, some articles are particularly good, especially from a practical standpoint; others again make excellent monographs, but their lengthy and almost useless discussions are to be deplored. A weak point of this volume, as well as of many other modern standard works on cutaneous diseases, is the meagre and often untrustworthy descriptions of the pathology of the affections described. We have already a large number of excellent works on dermatology, and although some considerable advance has recently been made in dermato-pathology, we see little of it in the newer works. Again, the pathology of dermatology is almost entirely ignored by pathologists, and yet in cutaneous diseases we have the best field for experimental research.

The first article, by C. W. Allen, on the "Anatomy of the Skin and its Appendages," is short and contains a good résumé of our present knowledge of the physiology and anatomy of the skin.

On page 7 Allen says that "It is at the level of the granular cells that fluid exudations into the epidermis effect a separation of the layers when bullæ form or vesiculation occurs." This is not correct according to the more recent work on this subject, for vesicles may begin to form (1) between the horny and the granular layers, (2) in the centre of the rete Malpighii, (3) in the deeper layers of the epidermis, and (4) beneath the epidermis.

We do not find any description of the various sense points of the skin, which we think ought now to be given in a modern text-book.

"Parasitic Diseases," by L. D. Bulkley, is excellent and is the most practical article in the whole book. He has made a new departure in that he has added a third class, viz., "Diseases caused by micro-organisms of uncertain nature," the other two classes being "Diseases caused by (1) animal and (2) vegetable parasites." Under vegetable parasites also he has included myringomycosis, vaginomycosis and labiomycosis. Another ought to have been added, although only two cases have thus far been recorded, viz., diseases due to the invasion of blastomycetes or organisms allied to the yeast fungi. Bulkley makes the statement that tinea versicolor is very uncommon in this country and forms only one per cent in the statistics of the American Dermatological Association, whereas in Baltimore we consider it quite a common disease. His statement is probably due to the fact that patients with this cutaneous affection do not apply to the dermatologist for treatment because subjective symptoms are practically absent.

"Erythematous Affections," by H. H. Whitehouse, is fairly good, but the pathology is not at all clear, and in some instances cannot be accepted. His descriptions of bullous and pustular affections are much better.

The article by J. N. Hyde, on "Eczema and Dermatitis," is thorough, well written and very practical. It will prove to be of great value to students and practitioners. Under dermatitis calorica he says that in the vesicular stage, "when examined in section, it is clear that the blebs are histologically identical with those seen in herpes zoster, pemphigus and other affections characterized by the formation of bullæ." This most sweeping statement certainly cannot be accepted. The character of the vesicle of herpes zoster is quite distinct from all the other affections mentioned, and it may be added that almost all the vesicular and bullous affections exhibit some, if only slight differences both as to location and contents.

As we might expect, Crocker's articles on "Squamous Affections" and "Phlegmonous and Ulcerative Affections" are all that may be desired.

The "Papular Affections," by L. Brocq, is an article which, as a monograph, cannot be too highly praised, but for a text-book is too long and almost wearisome.

A. V. Harlingen has written two sections, one on "Diseases of the Sebaceous Glands," and the other on "Diseases of the Sweat Glands." They are both good, complete, and deserve much credit.

"Diseases of the Hair and Nails" is a well written section by D. W. Montgomery, and is a good résumé of the subject.

The article on "Benign Neoplasms," by John T. Bowen, is very good, especially the pathology.

Xeroderma Pigmentosum, or Kaposi's disease, written by its author, is such an extremely rare affection in this country that it hardly warrants the detailed description which is here given.

The last and longest article is on "Dermatoneuroses" by H. Leloir. These excellent descriptions, like Brocq's, are too lengthy and discursive for a text-book and could have been condensed with benefit. He emphasizes the fact that dermatologists should "admit the existence of intimate relations between diseases of the skin and those of the nervous system, for they demonstrate that the nervous system is only a differential ectoderm, and that the skin may be considered schematically as a peripheral and terminal expansion of the nervous system."

The whole volume is well bound, the type is particularly clear, but the illustrations are to be severely criticised, not on account of their quality, but on account of their quantity and distribution.

There are sixty-six illustrations in all, of which fifty accompany the first two articles, viz., on Anatomy of the Skin, etc., and on Parasites, whereas the remaining sixteen illustrate rare diseases, *e. g.* xeroderma pigmentosum is accompanied by eleven drawings. It would have been far preferable to have illustrated the descriptions of the commoner diseases, as has already been done in two or three of the later text-books on dermatology.

Judging the volume as a whole, we feel safe in recommending this new text-book to students who wish to enter this special branch of medicine at all thoroughly, and to practitioners for the excellent practical advice which will be found contained in it.

T. C. G.

A Pictorial Atlas of Skin Diseases and Syphilitic Affections, in photo-lithochromes from models in the Museum of the Saint-Louis Hospital, Paris, with explanatory woodcuts and texts by Ernest Besnier, A. Fournier, Tenneson, Hallopeau, Du Castel, Henri Feulard, Léon Jacquet, of the Saint-Louis Hospital. Edited and annotated by J. J. Pringle, London. (*F. G. Rebman, Publisher, London, and W. B. Saunders, Philadelphia.*) Part I. Price $3.

This number constitutes the first publication of a series of twelve parts. To those who have had the advantage of seeing and studying the wonderful Baretta models in the Saint Louis Hospital at Paris, the photo-lithochromes of this pictorial atlas will remind them very vividly of those reproductions. Accompanying the colored plates are descriptions by the distinguished experts of the Saint-Louis Hospital, so that a new illustrated text-book on cutaneous affections will thus be published. Part I contains four plates which, together with the text, constitutes twenty-eight quarto volumes, paper bound. Plate I represents a pronounced case of Lupus vulgaris on the central portion of the face. Although this may be a faithful reproduction of Baretta's model, it does not represent lupus vulgaris as we are in the habit of seeing it, which is accounted for by the fact that the disease has existed for some length of time. The smaller nodules do not exhibit that "apple-jelly" color which we see in the early lupus nodules. The description is by E. Besnier, and a good, clear, practical account of this disease is the result. Plate II represents the posterior surface of the forearm and hand of a case of dermatitis herpetiformis (Duhring), and cannot be too highly praised; the bullæ, filled with pus, appear to stand out from the plate. This effect of three dimensions is enhanced by placing the illustration against the window-pane and viewing it by transparent light. This plate ranks as the best photo-lithochrome which we have ever seen. Plate III shows a syphilitic chancre of the vulva, and is also an excellent reproduction. Plate IV represents the thigh, anterior surface, of a case of purpura hæmorrhagica. The case must have been a very severe one, and the effect again is enhanced by transparent light. Woodcuts are added in the text to explain the separate lesions.

The editors and publishers cannot be too highly praised for the beautiful and excellent manner in which these illustrations have been executed.

T. C. G.

BOOKS RECEIVED.

King's College Hospital Reports, being the Annual Report of King's College Hospital and the Medical Department of King's College. Edited by N. Tirard, M. D., F. R. C. P., *et al.* Vol. II. Oct. 1, 1894–Sept. 30, 1895. 8vo. 1896. 376 pages. Adlard & Son, London.

Saint Bartholomew's Hospital Reports. Edited by S. West, M. D., and W. J. Walsham, F. R. C. S. Vol. XXXI. 1895. 8vo. 325+155 pages. Smith, Elder & Co., London.

St. Thomas's Hospital Reports. New Series, Vol. XXIII. Edited by Dr. T. D. Acland and Mr. B. Pitts. 1896. 8vo. 522+112 pages. J. & A. Churchill, London.

Twentieth Century Practice. An international encyclopedia of modern medical science by leading authorities of Europe and America. Edited by T. L. Stedman, M. D. Vol. VIII. Diseases of the digestive organs. 8vo. 667 pages. 1896. W. Wood & Co., New York.

United States Department of the Interior. Census Office. Report on Insurance Business in the United States at the Eleventh Census, 1890. Part II, Life Insurance. 4to. 1895. 478 pages. Government Printing Office, Washington, D. C.

Manual of Midwifery. By W. E. Fothergill, M. A., B. Sc., M. B., C. M. 12mo. 1896. 484 pages. The Macmillan Co., New York.

A Manual of Obstetrics. By W. A. N. Dorland, A. M., M. D. 8vo. 1896. 760 pages. W. B. Saunders, Phila.

Practical Points in Nursing for Nurses in Private Practice; with an Appendix containing Rules for Feeding the Sick, etc. By Emily A. M. Stoney. 8vo. 1896. 456 pages. W. B. Saunders, Phila.

Water and Water Supplies. By John C. Thresh. 1896. 12mo, 438 pages. The Rebman Publishing Co., London.

INDEX TO VOLUME VII. OF THE JOHNS HOPKINS HOSPITAL BULLETIN.

Addison's disease, 208.

Adenitis of the groin, acute suppurative, treatment of by pressure bandage, 137.

Adeno-carcinoma of pancreas, 189.

Agglutinative action of the blood-serum of patients suffering from typhoid fever, 206.

Alcohol, absolute, as a disinfectant for instruments, 179.

Alveolar sarcoma of the cerebellum, 193.

An Alabama student, 6.

Anatomical appearances of adeno-myoma, 113.

Anatomical course and laboratory, 85.

Anatomy, microscopic, outline of course in, 100.

Anatomy and histology, arrangement of the courses in, 97.

Apparatus and accessories, 110.

Bacillus aerogenes capsulatus in suppurative pyelitis, 66.

Balloon, vesical, method of applying, 45.

Bardeen, Charles R., and Barker, Lewellys F. An outline of the course in normal histology and microscopic anatomy, 100.

Barker, Lewellys F. Review of Hahn's Ueber die beziehungen der leucocyten zur bactericiden wirkung des blutes, 190;—Review of Hoch and Kraepelin's Ueber die wirkung der theebestandtheile auf körperliche, 170;—Review of Kronig's Ueber das bacterien-feindliche verhalten des scheidensecretes schwangerer, 52;—Some points regarding the pathology of malaria, 74;—Concerning neurological nomenclature, 200.

Barker, Lewellys F., and Bardeen, Charles R. An outline of the course in normal histology and microscopic anatomy, 100.

Barker, L. S., Flexner, S., and Thomas, H. M. Alveolar sarcoma of the cerebellum; remarks on anatomical relations of the cochlear and vestibular nerves, 193.

Berkley, Henry J. Experimental lesions produced by the action of ricin on the cortical nerve cell, 143;—Psychical nerve cell in health and disease, 162.

Bladder, urinary, after supra-pubic cystostomy, new apparatus for immediate and permanent drainage of, 64.

Block, E. Bates. The agglutinative action of the blood-serum of patients suffering from typhoid fever, 206.

Bloodgood, Jos. C. New apparatus for immediate and permanent drainage of urinary bladder after supra-pubic cystostomy, 64;—New operation for hemorrhoids, 24;—Perforating gunshot-wound of chest, 24.

Blumer, George. Cardiac hypertrophy, 144;—Generalized melanotic sarcoma, 188;—Hemiplegia with motor aphasia from

typhoid fever, 72;—Notes on two cases of ureteral abnormality, 174;—Specimen of adeno-carcinoma of pancreas, 189.
Blumer, George, and Thayer, Wm. Sydney. Ulcerative endocarditis due to the gonococcus; gonorrhœal septicæmia, 57.
Books received, 26, 55, 83, 146, 212.
Burn of neck, plastic operation for, 25.
Cancer of the uterus, ten cases of, operated upon by a more radical method of performing hysterectomy, 37.
Cardiac hypertrophy, 144.
Catgut, bacteriological study of, 47.
Catgut, sterilization of, by cumol, 46.
Clark, J. G. Sub-acute and chronic cystitis treated by the vesical balloon, 44;—Ten cases of cancer of the uterus operated upon by a more radical method of performing hysterectomy, 37.
Clark, J. G., and Miller, G. B. Sterilization of catgut by cumol, 46.
Clinical history of adeno-myoma, 113.
Club foot, acquired, 145.
Club foot, congenital, 146.
Coley, Wm. B. Further observations upon treatment of malignant tumors, with toxines of erysipelas and bacillus prodigiosus, with report of 160 cases, 157.
Complete duplication of the left ureter from the kidney to the bladder, 201.
Concerning neurological nomenclature, 200.
Correspondence, 146.
Cortical nerve cell, experimental lesions of, by ricin, 143.
Cullen, Thomas S. Adeno-myoma of round ligament, 112.
Cumol, modified method, 47.
Cumol, sterilization of catgut by, 46.
Cystitis, sub-acute and chronic, treated by the vesical balloon, 44.
Discussion: Dr. Barker, Treatment of ectopic pregnancy, 210;—Dr. Flexner, Two rare cases of diseases of the skin, 142;—Dr. Flexner, Adeno-carcinoma of pancreas, 190;—Dr. Kelly, Checking of operative bleeding by torsion, 72;—Dr. Platt, Checking of operative bleeding by torsion, 72;—Dr. Welch, Treatment of malignant tumors with toxins of erysipelas and bacillus prodigiosus, 160.
Dover, (of Dover's Powder), Thomas, M. B., physician and buccaneer, 11.
Duodenum, intubation of, 79.
Ectopic pregnancy, 209.
Endocarditis, ulcerative, due to the gonococcus; gonorrhœal septicæmia, 57.
Epispadias, case of, 26.
Erysipelas toxins, 157.
Exhibition of surgical cases, 24, 145.
Eyelids, movements of, associated with movements of jaws and with lateral movements of eyeballs, 134.
Fistula, plastic operation for closure of, 25.
Fistulæ, large vesico-vaginal, treatment of, 29.
Fletcher, Robert. Witches' pharmacopœia, 147.
Flexner, Simon. Case of combined protozoan and bacterial infection, amœbic dysentery, malaria and micrococcus lanceolatus, acute fibrino-purulent peritonitis, 171;—Bubonic plague, 181.
Flexner, S., Barker, L. S., and Thomas, H. M. Alveolar sarcoma of the cerebellum; pathological report, 193.
Forceps, axis traction, history and development of, 24.
Friedenwald, Harry. On movements of eyelids associated with movements of the jaws, and with lateral movements of the eyeballs, 134;—Notes on congenital motor defects of the eyeballs (congenital paralysis of the ocular muscles), 202.
Gaither, A. Bradley. Abortive treatment of acute suppurative adenitis of groin by pressure bandage, 137.
Gilchrist, T. C. Two rare cases of diseases of the skin, 138.
Gilchrist, T. C., and Stokes, W. R. Presence of oidium in tissues of pseudo-lupus vulgaris, 129;—Review of Pringle's Pictorial Atlas of Skin Diseases, 212;—Review of Stedman's Twentieth Century Practice, 211.
Gonorrhœal septicæmia, ulcerative, endocarditis due to gonococcus, 57.
Graduates in medicine, 168, 192.
Gunshot, perforating wound of chest, 24.
Halsted, W. S. Three cases of plastic surgery, 25.
Haynes, W. H. Hemiplegia occurring with typhoid fever, 146.
Hemiplegia occurring with typhoid fever, 146.
Hemiplegia with motor aphasia in typhoid fever, case of, 72.
Hemmeter, J. C. Intubation of duodenum, 79.
Hemorrhoids, new operation for, 24.
Herndon, Dr., pathological report of, 36.
Histology and microscopical anatomy, outline of course in, 100.
Hoen, A. G. Photographic room and apparatus in anatomical laboratory of Johns Hopkins University, 109.
Histological examination of adeno-myoma, 113.
Hopkins Historical Club, women in medicine, 50.
Hystero-salpingo-oophorectomy and hysteromyomectomy by continuous incision, 27.
Hysteromyomectomy and hystero-salpingo-oophorectomy by continuous incision, 27.
Hysterectomy, a more radical method of performing, 37.
Illumination, methods of, 111.
Johannes Muller, university teacher, 16.
John Bell, surgeon, 198.
John Keats, the apothecary poet, 11.
Johns Hopkins Hospital Medical Society Proceedings: Adeno-carcinoma of pancreas, Dr. Blumer, 189;—Bacteriological report, Dr. G. B. Miller, 50;—Cardiac hypertrophy, Dr. Blumer, 144;—Epispadias, case of, 26;—Exhibition of surgical cases, Dr. Bloodgood, 24;—Exhibition of surgical cases, Dr. Platt, 145;—Experimental lesions produced by ricin on the cortical nerve cell, Dr. Berkley, 145;—Hemiplegia with motor aphasia in typhoid fever, Dr. Blumer, 72;—History and development of axis traction forceps, Dr. Williams, 24;—Intubation of the duodenum, Dr. Hemmeter, 79;—Malaria, pathology of, Dr. Barker, 74;—Oyster-shucker's keratitis, study of, Dr. Randolph, 143;—Plastic surgery, Dr. Halsted, 25;—Pleuro-peritoneal tuberculosis, Dr. Osler, 79;—Pyo-ureteritis and pyonephrosis, treatment of, Dr. Kelly, 48;—Sarcoma, generalized melanotic, Dr. Blumer, 188;—Case of Addison's disease; death during treatment with supra-renal extract, Dr. Osler, 208;—Treatment of ectopic pregnancy by vaginal puncture, Dr. Kelly, 209.
Johns Hopkins Medical Society, 24, 48, 72, 143, 188.
Kelly, Howard A. Hysteromyomectomy and hystero-salpingo-oophorectomy by continuous incision from left to right or from right to left, 27;—Treatment of ectopic pregnancy by vaginal puncture, 209;—Treatment of large vesico-vaginal fistulæ, 29;—Nephro-ureterectomy, 31; Treatment of pyo-ureteritis, 48;—Women in medicine, 30.
Keratitis, oyster-shucker's, study of, 143.
Laboratories, modern and scientific, evolution of, 19.
Light filter, 111.
Literature of contracted pelves, 167.
Livingood, L. E. Tumors in the mouse, 177.
Lymphangioma circumscriptum, 138.
Malaria, pathology of, 74.
Malarial infection as a source of error in surgical diagnosis, 204.
Mall, Franklin P. Anatomical course and laboratory of the Johns Hopkins University, 85.
Martin, Edward. Checking of operative bleeding by torsion, 68.
Medical journals, in Baltimore, public and private libraries, 114.
Miller, G. B. Bacteriological report, 50.
Miller, G. B., and Clark, J. G. Sterilization of catgut by cumol, 46.
Nephro-ureterotomy, 3.
Notes on congenital motor defects of the eyeballs (congenital paralysis of the ocular muscles), 202.
Notes on new books:—American text-book of obstetrics, Norris, Richard C., 83;—Boisliniére, L. Ch., Obstetric accidents, emergencies and operations, 192;—Burdett, Hospital and charities annual, 82;—Fothergill, W. E., Manual of midwifery, 211;—Grandin and Jarman, Pregnancy, labor and the puerperal state, 82;—Hahn, Ueber die beziehungen der leucocyten zur bactericiden wirkung des blutes, 190;—Hart, Mrs., Diet in sickness and health, 83;—Haynes, Irving, Manual of anatomy, 192;—Hoch and Kraepelin, Ueber die wirkung der theebestandtheile auf körperliche und geistige arbeit, 170;—Hyde, James Nevins, Manual of syphilis and the venereal diseases, 192;—Kronig, Ueber das bacterienfeindliche verhalten des scheidensecretes schwangerer, 52;—McFarland, Joseph, Text-book upon the path-

ogenic bacteria, 170;—Menge, Ueber ein bacterienfeindliches verhalten der scheidensecretes nicht schwangerer, 53;—Pringle, J. J, Pictorial atlas of skin diseases, etc., 212;—Shoemaker, Practical treatise on materia medica and therapeutics, 82;—Starr and Strong, Atlas of nerve cells, 169;—Stedman, T. L., Twentieth century practice of medicine, Volume V, 211;—Thoma and Bruce, Text-book of general pathology and pathologica lanatomy, 168;—Warren, Surgical pathology and therapeutics, 80.

Notes on two cases of ureteral abnormality, 174.

Oidium in the tissues of pseudo-lupus vulgaris, 129.

Osler, William. An Alabama student, 6;—Case of Addison's disease, 208;—John Keats, the apothecary poet, 11;—Pleuro-peritoneal tuberculosis, 79;—Thomas Dover, M. B, (of Dover's powder), physician and buccaneer, 1.

Oyster-shucker's keratitis, 143.

Pathological report, 36.

Pelves, contracted, frequency of, in Baltimore, 164.

Pharmacopœia, witches', 147.

Photographic room and apparatus in the anatomical laboratory, 169.

Plague, bubonic, 181.

Platt, Walter B. Exhibition of surgical cases, 145;—Johannes Muller, a university teacher, 16;—John Bell, surgeon, 198.

Preparation, 104.

Proceedings of societies, 24, 48, 72, 143, 188, 208.

Prolapsus ani, new method of treatment of, 145.

Pseudo-lupus vulgaris, presence of oidium in, 129.

Psychical nerve cell in health and disease, 162.

Pyelitis, suppurative, 66.

Pyo-ureteritis, treatment of, 48.

Pyo-ureteritis and pyo-nephrosis, bacteriological report of, 50.

Ramsay, Otto. A complete duplication of the left ureter from the kidney to the bladder, 201.

Randolph, Robert L. Absolute alcohol as a disinfectant for instruments, a bacteriological study, 185;—Anatomical changes in retinal detachment, 179;—Clinical and experimental study of oyster-shucker's keratitis, 143.

Retinal detachment, anatomical changes in, 179.

Round ligament, adeno-myoma of, 112.

Russell, W. W. Malarial infection as a source of error in surgical diagnosis, 204.

Sarcoma, generalized melanotic, 188.

Skin diseases, two rare cases of, 138.

Special courses for graduates in medicine, change of date, 168, 192.

Suprapubic cystostomy, drainage of bladder after, 64.

Surgery, three cases of plastic, 25.

Surgical cases, exhibition of, 145.

Thayer, Wm. Sydney, and Blumer, George. Ulcerative endocarditis due to the gonococcus; gonorrhœal septicæmia, 57.

Thies, Miss E. S. Scientific medical journals in public and private libraries, 114.

Thomas, H. M., Barker, L. F., and Flexner, S. Alveolar sarcoma of the cerebellum; clinical report, 193.

Torsion, checking of operative bleeding by, 68.

Treatment of pyo-ureteritis and pyo-nephrosis, 48.

Tuberculosis, pleuro-peritoneal, 79.

Tumors, malignant, treatment of, with toxines of erysipelas and bacillus prodigiosus, 157.

Tumors in the mouse, 177.

Typhoid fever, hemiplegia with, 146.

Ulcerative endocarditis due to the gonococcus; gonorrhœal septicæmia, 57.

Ureteral abnormality, notes on two cases of, 174.

Urinary bladder, apparatus for immediate and permanent drainage of, after suprapubic cystostomy, 64.

Urticaria pigmentosa, case of, 140.

Uterus, cancer of, operated upon by a more radical method of performing hysterectomy, 37.

Vesical balloon, method of applying, 45.

Welch, William H. Evolution of modern scientific laboratories, 19.

Williams, J. W. Frequency of contracted pelves in Baltimore, 164; History and development of the axis traction forceps, 24.

Williams, Herbert U. Bacillus aerogenes capsulatus in suppurative pyelitis, 66.

Women in medicine, 30.

Wound of chest, perforating gunshot, 24.

ILLUSTRATIONS.

1. Hysteromyomectomy and hystero-salpingo-oophorectomy, (Figs. 1, 2, 3), 28.
2. Vesico-vaginal fistulæ, (Figs. 1, 2, 3, 4), 30.
3. Extra-peritoneal nephro-ureterectomy, (Fig. 1), 36.
4. Diagram of incisions for extra-peritoneal nephro-ureterectomy, (Fig. II), 36.
5. Transverse incision, (Fig. III), 36.
6. Renal vessels divided, (Fig. IV), 36.
7. Opening of the vaginal vault, (Fig. V), 36.
8. Removal of the lower end of the ureter through vagina, (Fig. VI), 36.
9. Method of dissecting uterine artery, (Fig. I), 44.
10. Uterine artery doubly ligated and cut, (Fig. II), 44.
11. Radical operation for cancer of the uterus, (Fig. III), 44.
12. Vesical bag covered with gelatine and partially rolled, (Fig. I), 46.
13. Vesical bag rolled and clamped, (Fig. II), 46.
14. Water-bath for medicated gelatine, (Fig. III), 46.
15. Vesical bag inserted and inflated, (Fig. IV), 46.
16. Appearance of trigonum and a part of the posterior wall of the bladder before and after treatment, (Figs. V, VI), 46.
17. Drainage apparatus, (Figs. I, II, IIIa, IIIb, IV), 64.
Drainage apparatus in position, 64.
18. Anatomical building—attic plan, (Fig. 13), 86.
19. Third floor plan, (Fig. 10), 88.
20. Basement plan, (Fig. 1), 89.
21. Injecting apparatus in embalming room, (Fig. 2), 90.
22. Refrigerating apparatus, (Fig. 3), 90.
23. Refrigerating room section, (Fig. 4), 91.
24. First floor plan, (Fig. 5), 94.
25. Histological laboratory, (Fig. 7), 94.
26. Preparation room, south end, (Fig. 8), 94.
27. Second floor plan, (Fig. 6), 95.
28. Private laboratory, (Fig. 9), 96.
29. Dissecting room, inside view, (Fig. 11), 96.
30. Study room, northwest corner, (Fig. 12), 98.
31. Animal house, floor plan, (Fig. 14), 99.
32. Helios electric lamp, (Fig. 4), 110.
33. Photographing room, (Fig. 1), 110.
34. Projecting room, southwest corner, (Fig. 2), 110.
35. Projecting room, northwest corner, (Fig. 3), 110.
36. Adeno-myoma of the round ligament, (Figs. 1, 2), 112.
37. Lymphangioma circumscriptum, (Fig. 1), 138.
38. Urticaria pigmentosa, (Figs. 2, 3), 138.
39. Adeno-carcinoma, (Fig. 1), 178.
40. Recurrent adeno-carcinoma, (Fig. 2), 178.
41. Metastatic adeno-carcinoma, (Fig. 3), 178.
42. Sebaceous adenoma, (Fig. 4), 178.
43. Retinal detachment, 179.
44. Fibrillary degeneration of the vitreous body, 179.
45. Dilated ureters, (Fig. 1), 202.
46. Bladder with two ureteral orifices, (Fig. 2), 202.

The Johns Hopkins Hospital Bulletins are issued monthly. They are printed by THE FRIEDENWALD CO., Baltimore. Single copies may be procured from Messrs. CUSHING & CO. and the BALTIMORE NEWS COMPANY, Baltimore. Subscriptions, $1.00 a year, may be addressed to the publishers, THE JOHNS HOPKINS PRESS, BALTIMORE; single copies will be sent by mail for fifteen cents each.